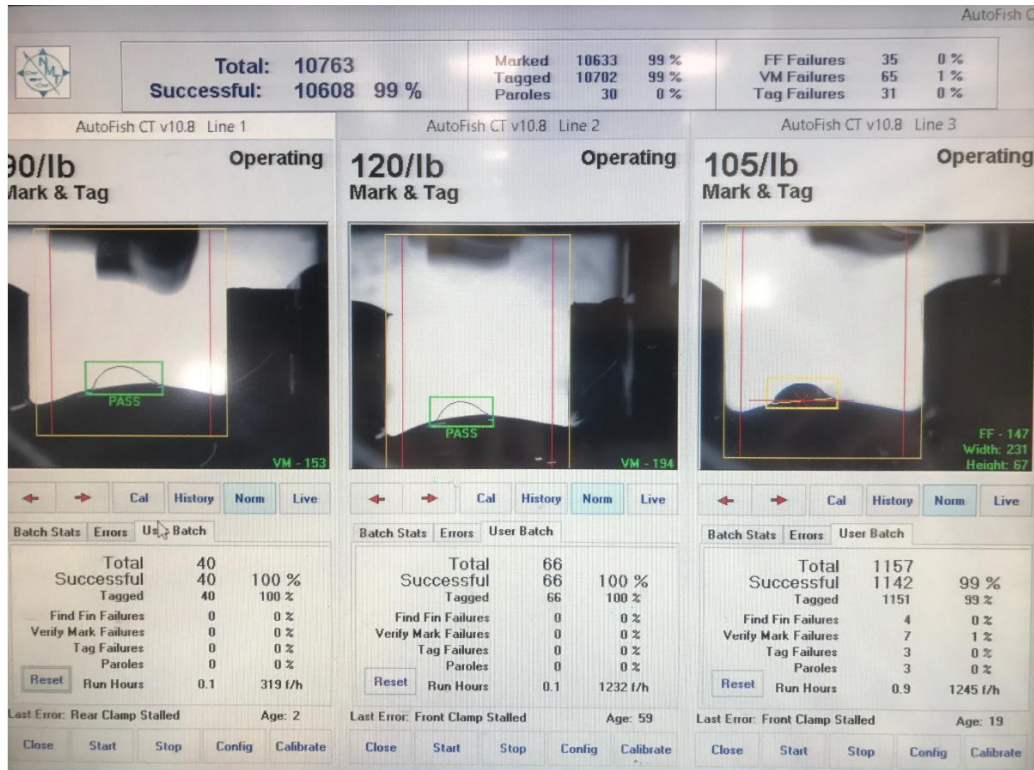




2020

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IDAHO ANADROMOUS FISH-MARKING PROGRAM

Report to:
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Introduction

In April 2009, IDFG contracted all anadromous fish-marking in the state of Idaho to PSMFC. In 2020, all fish-marking personnel were employees of PSMFC. The marking program was based out of Lewiston, Idaho and consisted of three fulltime staff; one Tagging Coordinator, two Trailer Operators and thirteen seasonal staff; five Trailer Operators, eight Trailer Assistants, and a varying number of temporary Trailer Assistants as needed for the 2020 marking season. This report summarizes all fish marked by the Idaho Anadromous Fish-Marking Program in the year 2020. The program was responsible for the marking of anadromous fish at the following nine fish hatcheries: Clearwater, Hagerman National, Magic Valley, McCall, Niagara Springs, Pahsimeroi, Rapid River, Sawtooth, and Springfield. While at these fish hatcheries a variety of different marks and tags were applied including adipose fin-clips, coded-wire tags (CWT), and passive integrated transponder (PIT) tags to steelhead (*Oncorhynchus mykiss*), Sockeye salmon (*Oncorhynchus nerka*), and Chinook salmon (*Oncorhynchus tshawytscha*).

The IDFG research division develops a mark plan that indicates the number of fish at each hatchery that are to receive specific marks. Coded-wire tags were implanted from the fourth week of April through the fourth week of August. The adipose fin-clipping took place from the fourth week of April to the second week of September. PIT-tags were implanted from the third week of September through the first week of December, and provide a unique alphanumeric code to each individual fish.

The overall objectives of the Idaho Anadromous Fish-Marking Program are as follows:

Objective 1: Provide technical and administrative services associated with performing and completing the work identified in the 2020 Fish Marking Contract. Technical and administrative tasks may include: project management, budgeting, scheduling, coordination, crew supervision, report preparation, grant management, invoicing, equipment maintenance and data collection, storage and analysis, and all other tasks that may be necessary to complete the scope of work specified in the 2020 contract.

Objective 2: Purchase supplies as per the contracted budget, hire and supervise project personnel for marking and tagging operations specified in the contract. Operate IDFG owned marking and tagging trailers, vehicles and associated equipment.

Objective 3: Conduct quality control studies for each fin-clipped and coded-wire tagged release group and report to the IDFG Project Manager. Coordinate all project activities and share all project data with IDFG hatchery staff.

Objective 4: Coordinate with IDFG to ensure marking and tagging information is uploaded to IDFG's data storage location. Information will be accurate and timely and conform to the established formatting protocols established by IDFG.

Objective 5: Prepare and submit an annual report to the IDFG Project Manager in electronic form no later than December 31 of the current contract period. Each report shall detail work accomplished, numbers of fish marked and tagged, results of tag retention studies, a discussion of any problems encountered and recommendations to correct challenges or problems encountered during the year. Additionally, PSMFC will provide monthly financial reports as well as preliminary data reports that summarize numbers of fish handled, numbers and types of marks and tags applied, and hatcheries where work was performed.

Methods

The Idaho marking program used five state-of-the-art automated tagging trailers (AutoFish Trailers). These AutoFish Trailers incorporate the latest advanced technology for adipose fin-clipping and coded-wire tagging fish. These AutoFish Trailers have the capacity to mark and implant coded-wire tags very rapidly without the use of anesthetic or human contact. These systems have been in use for many years in the Pacific Northwest and in Idaho since 2002. Steelhead, Sockeye salmon and Chinook salmon were PIT-tagged using a four-station manual PIT-tagging trailer.

The AutoFish Trailers are able to process fish that are a minimum of 57mm in total length and a maximum of 142mm in total length. This size restriction means that timing at each facility is critical to maximize efficiency and productivity. At many facilities the fish were processed through the automated trailers when the hatcheries were ready to move the fish from inside rearing vats to outside rearing ponds or raceways, making timing of the mark event even more critical to ensure that the density limits of the inside rearing containers were not exceeded. Double shifts were typically used to maximize efficiency and output of the automated trailers. AutoFish Trailers were moved as needed between hatcheries relative to fish reaching appropriate marking size.

Fish were delivered to the AutoFish Trailers by means of electric Matsusaka four-inch fish-transfer pumps. Once inside the trailers fish were pumped via an internal fish lift system into the sorter. The sorter takes an image of each individual fish and records the total length of the fish (within .1mm) and then diverts the fish to the appropriate line. Each of the automated lines is set up to run a specific size range of fish. Once the fish have reached the automated line they travel down a channel and are separated by a series of gates that ensure one fish at a time arrive at the clamping mechanism. Once the clamps come together on the fish a camera takes an image of the back of the fish and locates the adipose fin. The computer relays the exact X and Y coordinates of the adipose fin in relation to the back of the fish to a clipping mechanism that excises the adipose fin. Once the clipping is complete the camera takes a second image to ensure that the fin-clip was successful. At the moment the clamps come together to hold the fish for imaging the coded-wire tag is inserted into the snout of the fish via a Mark IV tag injector that is positioned at the end of each channel. After the fish has been clipped and/or tagged it is released from the clamps and travels through a Quality Control Device (QCD) that checks for the presence of a coded-wire tag. If the fish passes the clip quality check and tag detection, it is then delivered from the trailer to the proper raceway or pond via four-inch discharge pipe. If the fish fails either the tag detection or clip quality check, it is diverted into a reject container and will be processed manually in the back of the trailer by a Trailer Assistant.

In the manual section of the trailer; fish that were either too large or too small to be processed through the automated lines, or were rejected by the automated lines, were anesthetized and clipped and/or tagged manually.

At most facilities tag retention studies were conducted to determine the coded-wire tag shed rate for each specific tag code and/or raceway. Approximately 300 fish were checked 21 days post tagging to check for the presence of a coded-wire tag. Adipose fin-clips were also checked on the fish if they had been attempted to be clipped. Due to the reduction in coded-wire tag groups, fewer groups were checked for adipose fin-clip quality and information for this report is incomplete.

Upon completion of marking operations at each facility all trailers and equipment were disinfected prior to being transported off the hatchery compound following the Idaho Trailer Disinfection Protocol. The first step in this process was to scrub all inside surfaces with diluted liquid Lysol. A large water trough was then used to create a closed water circulating system and a bleach solution (350ppm) was run through the trailer for a minimum of 45 minutes. Upon completion of the disinfection process Sodium Thiosulfate was used to neutralize the bleach and the water was then emptied out of the trailer according to hatchery protocol. Upon arrival at the next facility the entire trailer was extensively flushed with fresh hatchery water before exposing fish to the trailer.

The numbers in this report reflect the fish handled and type of mark that the Idaho Anadromous Fish-Marking Crew applied at each of the respective hatcheries at the time of marking. This information is not intended to be used for release numbers or information regarding release.

Results

The Marking Program performed the adipose fin-clipping and coded-wire tagging according to the 2020 Mark Plan. A total of 18,622,105 adipose fin-clips (AD) and/or coded wire tag (CWT) marks were applied to 17,185,542 fish in 2020 (Table 1).

Table 1: Mark Year 2020 Total number of fish marked, type of mark put on each fish, brood year (BY), and breakdown by each hatchery

2020 MARKING SUMMARY					
HATCHERY	# OF FISH MARKED	AD/CWT	CWT ONLY	AD ONLY	TOTAL MARKS
CLEARWATER SPRING-RUN CHINOOK BY 2019	2,849,040	744,984	136,589	1,967,467	3,594,024
CLEARWATER SUMMER-RUN CHINOOK BY 2019	321,308	110,426	120,002	81,220	422,074
CLEARWATER SUMMER-RUN STEELHEAD BY 2020	907,033	0	340,765	566,268	907,033
HAGERMAN NATIONAL SUMMER-RUN STEELHEAD BY 2020	1,570,069	0	70,036	1,500,033	1,570,069
MAGIC VALLEY SUMMER-RUN STEELHEAD BY 2020	1,601,167	0	480,274	1,120,893	1,601,167
MCCALL SUMMER-RUN CHINOOK BY 2019	1,176,362	109,808	236,347	830,207	1,286,170
NIAGARA SPRINGS SUMMER-RUN STEELHEAD BY 2020	1,850,674	0	0	1,850,674	1,850,674
PAHSIMEROI SUMMER-RUN CHINOOK BY 2019	891,235	120,314	45,301	725,620	1,011,549
RAPID RIVER SPRING-RUN CHINOOK BY 2019	3,290,009	120,307	0	3,169,702	3,410,316
SAWTOOTH SPRING-RUN CHINOOK BY 2019	1,538,326	240,384	153,188	1,144,754	1,778,710
SPRINGFIELD SUMMER-RUN SOCKEYE BY 2019	1,190,319	0	0	1,190,319	1,190,319
MARK YEAR 2020 TOTALS	17,185,542	1,446,223	1,582,502	14,147,157	18,622,105

Tag retention studies indicated very high rates of tag/mark retention; our program wide goal is to achieve 99% or better tag retention on all groups of tagged fish (Table 2). Adipose fin-clip rates were only checked on those groups of fish that also received a coded-wire tag.

Table 2: Mark Year 2020 overall CWT retention rate, Hatchery average, total # of fish with CWT mark, Successful # of CWT marks

2020 OVERALL CWT RETENTION			
HATCHERY	AVERAGE RETENTION	# MARKED	# SUCCESSFUL
CLEARWATER SPRING-RUN CHINOOK	99.61%	881,573	878,109
CLEARWATER SUMMER-RUN CHINOOK	100.00%	240,088	240,088
CLEARWATER SUMMER-RUN STEELHEAD	99.35%	340,765	338,557
HAGERMAN NATIONAL SUMMER-RUN STEELHEAD	98.33%	70,036	68,869
MAGIC VALLEY SUMMER-RUN STEELHEAD	96.89%	480,274	465,333
MCCALL SUMMER-RUN CHINOOK	99.90%	346,155	345,819
PAHSIMEROI SUMMER-RUN CHINOOK	100.00%	165,615	165,615
RAPID RIVER SPRING-RUN CHINOOK	100.00%	120,307	120,307
SAWTOOTH SPRING-RUN CHINOOK	99.18%	393,572	390,383
TOTALS		3,038,385	3,013,079
OVERALL AVERAGE			99.17%

Retention by Hatchery:

- Clearwater Fish Hatchery: 98.80 – 100.00% with an average of 99.58%
- Pahsimeroi Fish Hatchery: 100.00 – 100.00% with an average of 100.00%
- Rapid River Fish Hatchery: 100.00 – 100.00% with an average of 100.00%
- McCall Fish Hatchery: 99.67 – 100.00% with an average of 99.90%
- Magic Valley Fish Hatchery: 95.33 – 98.33% with an average of 96.89%
- Hagerman National Fish Hatchery: 98.33 – 98.33% with an average of 98.33%
- Niagara Springs Fish Hatchery: No CWT at Niagara Springs Hatchery in 2020
- Sawtooth Fish Hatchery: 98.68 – 99.50% with an average of 99.18%
- Springfield Fish Hatchery: No CWT at Springfield Hatchery in 2020

In addition to the coded-wire tags and adipose fin-clips, 389,659 fish were PIT-tagged by the Marking Program in 2020 on fish that were marked during the 2020 Mark year (Table 3).

Table 3: Mark Year 2020 Summary of total PIT-Tagged fish and how many tagged at each hatchery

PIT TAG SUMMARY	
HATCHERY	TOTAL FISH TAGGED
CLEARWATER SPRING-RUN CHINOOK BY 2019	61,079
CLEARWATER SUMMER-RUN CHINOOK BY 2019	25,497
CLEARWATER SUMMER-RUN STEELHEAD BY 2020	21,504
HAGERMAN NATIONAL SUMMER-RUN STEELHEAD BY 2020	20,298
MAGIC VALLEY SUMMER-RUN STEELHEAD BY 2020	34,791
MCCALL SUMMER-RUN CHINOOK BY 2019	52,030
NIAGARA SPRINGS SUMMER-RUN STEELHEAD BY 2020	22,694
PAHSIMEROI SUMMER-RUN CHINOOK BY 2019	21,397
RAPID RIVER SPRING-RUN CHINOOK BY 2019	51,992
SAWTOOTH SPRING-RUN CHINOOK BY 2019	28,395
SPRINGFIELD SUMMER-RUN SOCKEYE BY 2019	49,982
TOTAL PIT TAGS	389,659

Schedule of Mark Events:

- April 23rd-May 21st Marking Spring-Run Chinook and Summer-Run Chinook at Clearwater
- May 14th-18th Marking Summer-Run Chinook at Pahsimeroi
- May 28th- June 2nd Marking Spring-Run Chinook at Sawtooth
- June 8th-23rd Marking Spring-Run Chinook at Rapid River
- June 22nd-26th Marking Summer-Run Chinook at McCall
- July 9th-July 14th Marking Summer-Run Sockeye at Springfield
- July 13th- 22nd Marking Summer-Run Chinook at McCall
- July 20th-August 3rd Marking Summer-Run Steelhead at Clearwater
- July 29th- August 4th Marking Summer-Run Steelhead at Magic Valley
- August 12th-18th Marking Summer-Run Steelhead at Niagara Springs
- August 26th - September 1st Marking Summer-Run Steelhead at Hagerman National
- September 11th-September 13th Marking Summer-Run Steelhead at Magic Valley
- September 21st-October 2nd Pit tagging Spring-Run Chinook, Summer-Run Chinook, and Summer-Run Steelhead at Clearwater
- October 6th and 7th Pit tagging Spring-Run Chinook at Sawtooth
- October 12th- 16th Pit tagging Summer-Run Chinook at McCall
- October 20th-22nd Pit tagging Summer-Run Sockeye at Springfield
- October 29th and 30th Pit tagging Summer-Run Steelhead at Hagerman National
- October 31st-November 2nd Pit tagging Summer-Run Steelhead at Magic Valley
- November 10th and 11th Pit tagging Summer-Run Steelhead at Niagara Springs
- November 17th and 18th Pit tagging Summer-Run Chinook at Pahsimeroi
- November 30th – December 3rd Pit tagging Spring-Run Chinook at Rapid River

Figure 1: Hatchery Locations for the 2020 Idaho Anadromous Fish-Marking Program



Clearwater Fish Hatchery



Clearwater Fish Hatchery Spring-Run Chinook

The Idaho Anadromous Fish-Marking Crew processed BY 2019 spring-run Chinook salmon at Clearwater Fish Hatchery from April 23rd through May 21st using two AutoFish trailers. Two electric Matsusaka fish-transfer pumps were used to load the fish into the trailers during the marking event. A total of 2,849,040 spring-run Chinook salmon were coded-wire tagged and/or adipose fin-clipped during the two trips (Table 4). After marking, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 4: Clearwater Fish Hatchery Spring-Run Chinook BY 2019 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Clearwater Fish Hatchery Spring-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
1E	5/1/20	M2	AD ONLY		27,533	3,749	31,282		SF CLEARWATER
1E	5/4/20	M2	AD ONLY		56,742	5,525	62,267		SF CLEARWATER
1E	5/4/20	M5	AD ONLY		52,819	7,464	60,283	153,832	SF CLEARWATER
2E	4/30/20	M2	AD ONLY		54,654	7,347	62,001		SF CLEARWATER
2E	5/1/20	M2	AD ONLY		28,016	3,200	31,216		SF CLEARWATER
2E	5/1/20	M5	AD ONLY		24,436	4,068	28,504		SF CLEARWATER
2E	5/1/20	M5	AD/CWT	10-04-77	28,688	1,386	30,074	151,795	SF CLEARWATER
3E	4/30/20	M5	AD ONLY		26,145	2,836	28,981		RAPID RIVER
3E	4/30/20	M2	AD ONLY		53,562	4,225	57,787		RAPID RIVER
3E	5/1/20	M5	AD ONLY		2,478	109	2,587		SF CLEARWATER
3E	5/1/20	M2	AD ONLY		56,154	6,055	62,209	151,564	RAPID RIVER
3W UPPER	5/4/20	M2	AD ONLY		63,115	9,929	73,044		SF CLEARWATER
3W UPPER	5/5/20	M2	AD ONLY		23,114	1,600	24,714	97,758	SF CLEARWATER
3W LOWER	5/6/20	M5	AD/CWT	10-04-90	51,634	1,739	53,373		SF CLEARWATER
3W LOWER	5/6/20	M5	AD/CWT	10-04-90	31,518	2,097	33,615		SF CLEARWATER
3W LOWER	5/7/20	M5	AD/CWT	10-04-90	5,572	599	6,171		SF CLEARWATER
3W LOWER	5/7/20	M5	AD/CWT	10-04-90	3,518	348	3,866	97,025	SF CLEARWATER
4A	5/13/20	M5	AD ONLY		29,933	4,348	34,281		KNFH
4A	5/13/20	M5	AD/CWT	10-04-76	29,494	1,005	30,499	64,780	KNFH
4B	5/13/20	M5	AD ONLY		15,753	1,502	17,255		KNFH
4B	5/14/20	M5	AD ONLY		11,140	1,017	12,157		KNFH
4B	5/15/20	M5	AD ONLY		33,392	3,936	37,328	66,740	KNFH
4E	4/28/20	M5	AD ONLY		25,385	5,428	30,813		RAPID RIVER
4E	4/28/20	M5	AD/CWT	10-04-77	28,753	1,256	30,009		RAPID RIVER
4E	4/29/20	M5	AD ONLY		52,718	5,423	58,141		RAPID RIVER
4E	4/30/20	M5	AD ONLY		26,830	2,675	29,505	148,468	RAPID RIVER
4W UPPER	5/5/20	M2	AD ONLY		15,075	1,336	16,411		SF CLEARWATER
4W UPPER	5/5/20	M5	AD ONLY		51,966	4,400	56,366		SF CLEARWATER
4W UPPER	5/5/20	M5	AD ONLY		23,858	3,431	27,289	100,066	SF CLEARWATER
4W LOWER	5/6/20	M5	AD/CWT	10-04-90	29,731	2,063	31,794		SF CLEARWATER
4W LOWER	5/7/20	M5	AD/CWT	10-04-90	42,275	1,757	44,032		SF CLEARWATER
4W LOWER	5/7/20	M5	AD/CWT	10-04-90	12,495	806	13,301		SF CLEARWATER
4W LOWER	5/7/20	M5	AD/CWT	10-04-90	5,500	586	6,086	95,213	SF CLEARWATER
5A	5/14/20	M2	AD ONLY		32,694	3,463	36,157		KNFH
5A	5/14/20	M5	AD ONLY		24,236	1,889	26,125	62,282	KNFH
5B	5/14/20	M5	AD ONLY		25,410	2,816	28,226		KNFH
5B	5/14/20	M5	AD ONLY		9,021	1,228	10,249		KNFH
5B	5/14/20	M5	AD/CWT	10-04-76	29,136	873	30,009	68,484	KNFH
5E	4/23/20	M2	AD ONLY		27,105	2,916	30,021		SF CLEARWATER
5E	4/24/20	M2	AD ONLY		43,055	5,306	48,361		SF CLEARWATER
5E	4/27/20	M2	AD ONLY		50,132	6,636	56,768		L. WHITE SALMON
5E	4/28/20	M2	AD ONLY		12,291	1,557	13,848	148,998	L. WHITE SALMON

Table 4: Continued

Raceway Totals and Mark Totals at Clearwater Fish Hatchery Spring-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
5W UPPER	4/27/20	M5	AD ONLY		62,886	9,472	72,358		SF CLEARWATER
5W UPPER	4/27/20	M5	AD/CWT	10-04-77	29,109	895	30,004		SF CLEARWATER
5W UPPER	4/28/20	M5	AD ONLY		45,276	4,051	49,327	151,689	SF CLEARWATER
5W LOWER	5/5/20	M2	AD/CWT	10-04-91	59,885	2,892	62,777		SF CLEARWATER
5W LOWER	5/6/20	M2	AD/CWT	10-04-91	31,020	872	31,892	94,669	SF CLEARWATER
6A	5/13/20	M5	AD ONLY		5,208	1,064	6,272		KNFH
6A	5/15/20	M2	AD ONLY		49,252	4,761	54,013		KNFH
6A	5/15/20	M5	AD ONLY		6,500	400	6,900	67,185	KNFH
6B	5/12/20	M5	AD ONLY		27,297	2,433	29,730		KNFH
6B	5/13/20	M5	AD ONLY		21,821	2,751	24,572		KNFH
6B	5/14/20	M5	AD ONLY		12,658	1,076	13,734	68,036	KNFH
6E	4/23/20	M5	AD ONLY		12,497	2,011	14,508		SF CLEARWATER
6E	4/23/20	M2	AD ONLY		15,337	2,618	17,955		SF CLEARWATER
6E	4/23/20	M5	AD/CWT	10-04-77	29,040	971	30,011		SF CLEARWATER
6E	4/24/20	M5	AD ONLY		54,585	11,114	65,699		SF CLEARWATER
6E	4/24/20	M2	AD ONLY		14,512	1,818	16,330		SF CLEARWATER
6E	4/27/20	M5	AD ONLY		9,642	961	10,603	155,106	SF CLEARWATER
6W UPPER	4/28/20	M5	AD ONLY		5,660	1,138	6,798		SF CLEARWATER
6W UPPER	4/28/20	M2	AD ONLY		27,021	2,816	29,837		SF CLEARWATER
6W UPPER	4/29/20	M2	AD ONLY		52,527	3,934	56,461		SF CLEARWATER
6W UPPER	4/29/20	M2	AD ONLY		53,300	6,291	59,591	152,687	SF CLEARWATER
6W LOWER	5/6/20	M2	AD/CWT	10-04-91	19,360	2,201	21,561		SF CLEARWATER
6W LOWER	5/7/20	M2	AD/CWT	10-04-91	47,434	2,681	50,115		SF CLEARWATER
6W LOWER	5/7/20	M5	AD/CWT	10-04-91	22,764	2,017	24,781	96,457	SF CLEARWATER
7A	5/18/20	M2	AD ONLY		33,919	3,657	37,576		KNFH
7A	5/18/20	M5	AD ONLY		24,187	3,426	27,613	65,189	KNFH
7B	5/15/20	M5	AD ONLY		12,205	2,145	14,350		KNFH
7B	5/15/20	M5	AD ONLY		17,653	2,018	19,671		KNFH
7B	5/15/20	M5	AD/CWT	10-04-76	29,451	784	30,235		KNFH
7B	5/18/20	M5	AD ONLY		1,551	100	1,651	65,907	KNFH
8A	5/18/20	M5	AD ONLY		8,457	1,752	10,209		DWORSHAK/KNFH
8A	5/18/20	M5	AD/CWT	10-04-76	27,929	1,794	29,723		DWORSHAK/KNFH
8A	5/19/20	M5	AD ONLY		21,808	1,316	23,124	63,056	DWORSHAK/KNFH
8B	5/18/20	M2	AD ONLY		12,648	1,293	13,941		KNFH
8B	5/18/20	M5	AD ONLY		25,654	2,514	28,168		KNFH
8B	5/18/20	M5	AD ONLY		21,765	1,861	23,626	65,735	KNFH
9A	5/19/20	M2	AD ONLY		3,357	300	3,657		L. WHITE SALMON
9A	5/19/20	M5	AD ONLY		16,136	2,102	18,238		L. WHITE SALMON
9A	5/19/20	M2	CWT ONLY	10-04-87	44,016	1,025	45,041	66,936	L. WHITE SALMON
9B	5/19/20	M2	AD ONLY		7,112	2,316	9,428		L. WHITE SALMON
9B	5/19/20	M5	AD ONLY		12,602	2,955	15,557		L. WHITE SALMON
9B	5/19/20	M5	AD/CWT	10-04-70	38,409	2,139	40,548	65,533	L. WHITE SALMON

Table 4: Continued

Raceway Totals and Mark Totals at Clearwater Fish Hatchery Spring-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
10A	5/19/20	M5	AD ONLY		4,597	684	5,281		L. WHITE SALMON
10A	5/20/20	M2	AD ONLY		2,202	583	2,785		L. WHITE SALMON
10A	5/20/20	M2	CWT ONLY	10-04-87	43,024	2,007	45,031		L. WHITE SALMON
10A	5/21/20	M5	AD ONLY		9,343	2,817	12,160	65,257	L. WHITE SALMON
10B	5/19/20	M5	AD/CWT	10-04-70	18,034	1,639	19,673		L. WHITE SALMON
10B	5/20/20	M5	AD/CWT	10-04-70	19,071	1,321	20,392		L. WHITE SALMON
10B	5/20/20	M5	AD ONLY		23,244	3,268	26,512	66,577	L. WHITE SALMON
11A	5/20/20	M2	AD ONLY		9,517	1,928	11,445		SF CLEARWATER
11A	5/20/20	M2	CWT ONLY	10-04-87	41,625	3,626	45,251		L. WHITE SALMON
11A	5/20/20	M2	CWT ONLY	10-04-87	130	1,136	1,266		SF CLEARWATER
11A	5/20/20	M5	AD ONLY		6,563	921	7,484	65,446	SF CLEARWATER
11B	5/20/20	M5	AD/CWT	10-04-70	38,853	1,590	40,443		L. WHITE SALMON
11B	5/20/20	M5	AD ONLY		8,345	771	9,116		L. WHITE SALMON
11B	5/21/20	M5	AD ONLY		14,168	2,843	17,011	66,570	L. WHITE SALMON

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish; Adipose fin-clip rates on those fish that also received a coded-wire tag

TAG CODE TOTALS		
TAG CODE	TAG CODE SIZE	# TAGGED
10-04-77	110K	120,098
10-04-90	190K	192,238
10-04-91	190K	191,126
10-04-76	110K	120,466
10-04-87	123K	136,589
10-04-70	110K	121,056

MARK SUMMARY	
TOTAL AD/CWT	744,984
TOTAL CWT ONLY	136,589
TOTAL AD ONLY	1,967,467
TOTAL MARKED	2,849,040

CLEARWATER SPRING-RUN CHINOOK CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	% SUCCESSFUL	# MARKED	# SUCCESSFUL
2E,4E,5W,6E	417	412	98.80%	120,098	118,658
6W LOW,5W LOW	296	296	100.00%	191,126	191,126
4A,5B,7B,8A	401	400	99.75%	120,466	120,166
3W LOW,4W LOW	299	299	100.00%	192,238	192,238
9B,10B,11B	301	300	99.67%	121,056	120,654
9A,10A,11A	310	307	99.03%	136,589	135,267
MAX. RETENTION		100.00%	99.54%	881,573	878,109
MIN. RETENTION		98.80%	AVERAGE RETENTION		99.61%

Supplemental Tables: Continued

CLEARWATER SPRING-RUN CHINOOK ADIPOSE FIN-CLIP RATE				
RWY	# SAMPLED	NO CLIP	# GOOD	% SUCCESSFUL
2E,4E,5W,6E	417	4	413	99.04%
6W LOW,5W LOW	296	0	296	100.00%
4A,5B,7B,8A	401	0	401	100.00%
3W LOW,4W LOW	299	0	299	100.00%
9B,10B,11B	301	2	299	99.34%
			AVERAGE	99.68%

A total of 61,079 BY 2019 spring-run Chinook salmon (Table 5) were PIT-tagged at Clearwater Fish Hatchery from September 21st through September 30th using the four-station manual PIT-tagging trailer. Fish were loaded into the main trough of the trailer by an electric Matsusaka fish-transfer pump. After tagging, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 5: BY 2019 Clearwater Spring-Run Chinook PIT-tagged by raceway

Clearwater BY 2019 Spring-Run Chinook		
DATE	RWY	# OF FISH TAGGED
9/21/2020	1E	4,292
9/21/2020	3E	4,295
9/22/2020	5E	4,197
9/22/2020	5W UPPER	4,296
9/22/2020	3W LOWER	4,696
9/23/2020	4W LOWER	3,799
9/23/2020	5W LOWER	4,798
9/23/2020	6W LOWER	3,812
9/28/2020	4B	2,502
9/28/2020	5A	2,498
9/28/2020	6B	2,399
9/29/2020	8A	2,401
9/29/2020	9A	4,298
9/30/2020	9B	4,300
9/30/2020	10A	4,297
9/30/2020	11B	4,199
TOTAL FISH TAGGED:		61,079

Clearwater Fish Hatchery Summer-Run Chinook

The Idaho Anadromous Fish-Marking Crew processed BY 2019 summer-run Chinook salmon at Clearwater Fish Hatchery from May 8th through May 12th using two AutoFish Trailers. Electric Matsusaka fish-transfer pumps were used to load the fish into the trailer. A total of 321,308 summer-run Chinook salmon were coded-wire tagged and/or adipose fin-clipped (Table 6). After marking, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 6: Clearwater Fish Hatchery Summer-Run Chinook BY 2019 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Clearwater Fish Hatchery Summer-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
1A	5/8/20	M5	CWT ONLY	10-04-79	29,294	1,107	30,401		SF SALMON
1A	5/8/20	M5	CWT ONLY	10-04-79	8,603	997	9,600	40,001	SF SALMON
1B	5/8/20	M2	AD ONLY		7,955	965	8,920		SF SALMON
1B	5/8/20	M5	AD ONLY		15,600	1,400	17,000		SF SALMON
1B	5/8/20	M2	AD/CWT	10-04-69	37,785	2,277	40,062	65,982	SF SALMON
2A	5/11/20	M5	CWT ONLY	10-04-79	18,547	946	19,493		SF SALMON
2A	5/11/20	M5	CWT ONLY	10-04-79	19,763	745	20,508	40,001	SF SALMON
2B	5/8/20	M5	AD ONLY		16,329	3,181	19,510		SF SALMON
2B	5/11/20	M5	AD ONLY		5,314	707	6,021		POWELL
2B	5/8/20	M5	AD/CWT	10-04-69	21,547	1,478	23,025		POWELL
2B	5/11/20	M5	AD/CWT	10-04-69	16,337	639	16,976	65,532	POWELL
3A	5/12/20	M5	CWT ONLY	10-04-79	15,647	821	16,468		POWELL
3A	5/12/20	M5	CWT ONLY	10-04-79	22,730	802	23,532	40,000	POWELL
3B	5/12/20	M5	AD ONLY		26,539	3,230	29,769		POWELL
3B	5/11/20	M5	AD/CWT	10-04-69	28,880	1,483	30,363		SF SALMON
3B	5/12/20	M5	AD/CWT	10-04-69	9,175	485	9,660	69,792	SF SALMON

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish; Adipose fin-clip rates on those fish that also received a coded-wire tag

TAG CODE TOTALS		
TAG CODE	TAG CODE SIZE	# TAGGED
10-04-79	110K	120,002
10-04-69	110K	120,086

MARK SUMMARY	
TOTAL AD/CWT	120,086
TOTAL CWT ONLY	120,002
TOTAL AD ONLY	81,220
TOTAL MARKED	321,308

Supplemental Tables: Continued

CLEARWATER SUMMER-RUN CHINOOK CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	% SUCCESSFUL	# MARKED	# SUCCESSFUL
1B,2B,3B	299	299	100.00%	120,086	120,086
1A,2A,3A	0	0	N/A	120,002	N/A
MAX. RETENTION		100.00%		120,086	120,086
MIN. RETENTION		100.00%	AVERAGE RETENTION		100.00%

*Hole in net pen for tag code 10-04-69, tag retention unknown

*Lack of retention fish resulted in no adipose fin-clip rates

A total of 25,497 BY 2019 summer-run Chinook salmon (Table 7) were PIT-tagged at Clearwater Fish Hatchery September 24th – September 28th using the four-station manual PIT-tagging trailer. Fish were loaded into the main trough of the trailer by an electric Matsusaka fish-transfer pump. After tagging, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 7: BY 2019 Clearwater Summer-Run Chinook PIT-tagged by raceway

Clearwater BY 2019 Summer Chinook		
DATE	RWY	# OF FISH TAGGED
9/24/2020	1B	6,296
9/24/2020	2A	6,400
9/25/2020	3A	6,400
9/28/2020	3B	6,401
TOTAL FISH TAGGED:		25,497

Clearwater Fish Hatchery Summer-Run Steelhead

The Idaho Anadromous Fish-Marking Crew processed BY 2020 summer-run steelhead at Clearwater Fish Hatchery July 20th through August 3rd. A total of 907,033 fish were coded-wire tagged or adipose fin-clipped (Table 8). One AutoFish trailer was used to process fish that received a coded-wire tag or adipose fin-clip. Fish were loaded into the main trough of the trailer by an electric Matsusaka fish-transfer pump. After marking, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 8: Clearwater Fish Hatchery Summer-Run Steelhead BY 2020 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Clearwater Fish Hatchery Summer-Run Steelhead									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
7E	7/20/20	M5	CWT ONLY	10-04-86	26,145	1,060	27,205		SF CLEARWATER
7E	7/20/20	M5	CWT ONLY	10-04-86	32,993	3,779	36,772	63,977	SF CLEARWATER
7W	7/22/20	M5	AD ONLY		2,835	3,781	6,616		SF CLEARWATER
7W	7/23/20	M5	AD ONLY		49,967	10,428	60,395		SF CLEARWATER
7W	7/23/20	M5	AD ONLY		11,289	2,000	13,289	80,300	SF CLEARWATER
8E	7/21/20	M5	CWT ONLY	10-04-86	46,868	4,470	51,338		SF CLEARWATER
8E	7/31/20	M5	CWT ONLY	10-04-86	3,222	1,425	4,647	55,985	SF CLEARWATER
8W	7/22/20	M5	AD ONLY		20,355	2,017	22,372		SF CLEARWATER
8W	7/22/20	M5	AD ONLY		45,008	10,872	55,880		SF CLEARWATER
8W	7/23/20	M5	AD ONLY		1,703	345	2,048	80,300	SF CLEARWATER
9E	7/30/20	M5	AD ONLY		13,362	1,895	15,257		SF CLEARWATER
9E	7/30/20	M5	AD ONLY		26,472	4,721	31,193		SF CLEARWATER
9E	7/31/20	M5	AD ONLY		14,726	1,890	16,616		SF CLEARWATER
9E	7/31/20	M5	AD ONLY		14,644	2,200	16,844		SF CLEARWATER
9E	8/3/20	M5	AD ONLY		0	2,499	2,499	82,409	SF CLEARWATER
9W	7/21/20	M5	AD ONLY		39,496	8,161	47,657		SF CLEARWATER
9W	7/22/20	M5	AD ONLY		27,575	3,012	30,587		SF CLEARWATER
9W	7/23/20	M5	AD ONLY		1,706	350	2,056		SF CLEARWATER
9W	8/3/20	M5	AD ONLY		0	2,100	2,100	82,400	SF CLEARWATER
10E	7/29/20	M5	AD ONLY		29,623	7,151	36,774		SF CLEARWATER
10E	7/30/20	M5	AD ONLY		28,641	4,587	33,228		SF CLEARWATER
10E	7/31/20	M5	AD ONLY		8,375	1,533	9,908	79,910	SF CLEARWATER
10W	7/27/20	M5	CWT ONLY	10-04-92	17,325	1,280	18,605		SF CLEARWATER
10W	7/27/20	M5	CWT ONLY	10-04-92	29,905	6,491	36,396		SF CLEARWATER
10W	7/28/20	M5	CWT ONLY	10-04-92	17,871	2,835	20,706	75,707	SF CLEARWATER
11E	7/29/20	M5	AD ONLY		44,962	7,978	52,940		SF CLEARWATER
11E	7/29/20	M5	AD ONLY		13,620	3,451	17,071		SF CLEARWATER
11E	7/31/20	M5	AD ONLY		7,835	2,064	9,899	79,910	SF CLEARWATER
11W	7/24/20	M5	CWT ONLY	10-04-92	39,950	7,571	47,521		SF CLEARWATER
11W	7/27/20	M5	CWT ONLY	10-04-92	27,950	1,709	29,659	77,180	SF CLEARWATER
12E	7/28/20	M5	AD ONLY		15,444	2,294	17,738		SF CLEARWATER
12E	7/28/20	M5	AD ONLY		52,372	8,728	61,100		SF CLEARWATER
12E	7/31/20	M5	AD ONLY		11	2,190	2,201	81,039	SF CLEARWATER
12W	7/23/20	M5	CWT ONLY	10-04-92	16,489	2,040	18,529		SF CLEARWATER
12W	7/24/20	M5	CWT ONLY	10-04-92	44,787	4,600	49,387	67,916	SF CLEARWATER

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish

TAG CODE TOTALS		
TAG CODE	TAG CODE SIZE	# TAGGED
10-04-86	122K	119,962
10-04-92	210K	220,803

MARK SUMMARY	
TOTAL AD/CWT	0
TOTAL CWT ONLY	340,765
TOTAL AD ONLY	566,268
TOTAL MARKED	907,033

CLEARWATER BY 2020 SUMMER-RUN STEELHEAD CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	SUCCESSFUL	# MARKED	# SUCCESSFUL
7E,8E	325	325	100.00%	119,962	119,962
10W,11W,12W	300	297	99.00%	220,803	218,595
MAX. RETENTION		100.00%		340,765	338,557
MIN. RETENTION		99.00%	AVERAGE RETENTION		99.35%

*Coded-Wire tagged fish only, No Adipose Fin-Clip Rates

A total of 21,504 BY 2020 summer-run steelhead were PIT-tagged at Clearwater Fish Hatchery September 30th through October 2nd using the four-station manual PIT-tagging trailer (Table 9). Fish were loaded into the main trough of the trailer by an electric Matsusaka fish-transfer pump. After tagging, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 9: Clearwater Fish Hatchery Summer-Run Steelhead PIT-tagged by raceway

Clearwater BY 2020 Summer-Run Steelhead		
DATE	RWY	# OF FISH TAGGED
9/30/2020	7E	3,001
10/1/2020	8E	3,001
10/1/2020	9E	3,304
10/1/2020	11E	3,299
10/1/2020	12W	2,100
10/1/2020	10W	2,099
10/2/2020	9W	2,300
10/2/2020	8W	2,400
TOTAL FISH TAGGED:		21,504

Pahsimeroi Fish Hatchery



Pahsimeroi Fish Hatchery Summer-Run Chinook

The Idaho Anadromous Fish-Marking Crew processed BY 2019 summer-run Chinook salmon at Pahsimeroi Fish Hatchery May 14th through May 18th. A total of 891,235 fish were coded-wire tagged and/or adipose fin-clipped (Table 10). Two AutoFish Trailers were used to process fish that received a coded-wire tag and/or adipose fin-clip. Fish were loaded into the main trough of the two trailers by two electric Matsusaka fish-transfer pumps. After marking, fish were distributed to ponds via four-inch aluminum discharge pipe.

Table 10: Pahsimeroi Fish Hatchery Summer-Run Chinook BY 2019 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Pahsimeroi Fish Hatchery Summer-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
POND 1	5/14/20	M3	AD ONLY		22,328	5,680	28,008		PAHSIMEROI
POND 1	5/14/20	M3	AD/CWT	10-04-78	19,577	467	20,044		PAHSIMEROI
POND 1	5/14/20	M4	AD ONLY		48,153	7,762	55,915		PAHSIMEROI
POND 1	5/14/20	M4	CWT ONLY	10-04-64	43,028	2,273	45,301		PAHSIMEROI
POND 1	5/15/20	M3	AD ONLY		40,150	8,506	48,656		PAHSIMEROI
POND 1	5/15/20	M4	AD ONLY		26,357	3,021	29,378		PAHSIMEROI
POND 1	5/15/20	M3	AD ONLY		43,140	5,551	48,691		PAHSIMEROI
POND 1	5/15/20	M4	AD/CWT	10-04-78	19,273	750	20,023		PAHSIMEROI
POND 1	5/16/20	M4	AD ONLY		33,897	4,750	38,647		PAHSIMEROI
POND 1	5/16/20	M4	AD ONLY		9,446	1,748	11,194		PAHSIMEROI
POND 1	5/17/20	M4	AD ONLY		42,384	8,181	50,565		PAHSIMEROI
POND 1	5/17/20	M4	AD ONLY		3,857	1,251	5,108		PAHSIMEROI
POND 1	5/17/20	M4	AD/CWT	10-04-78	18,975	1,042	20,017		PAHSIMEROI
POND 1	5/18/20	M4	AD ONLY		21,653	4,197	25,850	447,397	PAHSIMEROI
POND 2	5/14/20	M3	AD ONLY		45,942	5,540	51,482		PAHSIMEROI
POND 2	5/15/20	M3	AD ONLY		22,865	2,026	24,891		PAHSIMEROI
POND 2	5/15/20	M4	AD ONLY		57,207	6,421	63,628		PAHSIMEROI
POND 2	5/15/20	M3	AD/CWT	10-04-78	17,871	2,151	20,022		PAHSIMEROI
POND 2	5/15/20	M4	AD/CWT	10-04-78	19,247	961	20,208		PAHSIMEROI
POND 2	5/16/20	M4	AD ONLY		11,987	1,763	13,750		PAHSIMEROI
POND 2	5/16/20	M3	AD ONLY		60,412	5,101	65,513		PAHSIMEROI
POND 2	5/16/20	M4	AD ONLY		45,039	6,080	51,119		PAHSIMEROI
POND 2	5/17/20	M4	AD ONLY		25,243	3,807	29,050		PAHSIMEROI
POND 2	5/17/20	M3	AD ONLY		59,825	5,790	65,615		PAHSIMEROI
POND 2	5/17/20	M4	AD/CWT	10-04-78	18,712	1,288	20,000		PAHSIMEROI
POND 2	5/18/20	M4	AD ONLY		15,577	2,983	18,560	443,838	PAHSIMEROI

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish; Adipose fin-clip rates on those fish that also received a coded-wire tag

TAG CODE TOTALS		
TAG CODE	TAG CODE SIZE	# TAGGED
10-04-64	60K	45,301
10-04-78	110K	120,314

MARK SUMMARY	
TOTAL AD/CWT	120,314
TOTAL CWT ONLY	45,301
TOTAL AD ONLY	725,620
TOTAL MARKED	891,235

Supplemental Tables: Continued

PAHSIMEROI BY 2019 SUMMER-RUN CHINOOK CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	SUCCESSFUL	# MARKED	# SUCCESSFUL
POND 1	217	217	100.00%	45,301	45,301
POND 1, POND 2	197	197	100.00%	120,314	120,314
MAX. RETENTION		100.00%	TOTALS	165,615	165,615
MIN. RETENTION		100.00%	AVERAGE RETENTION		100.00%

PAHSIMEROI SUMMER-RUN CHINOOK ADIPOSE FIN-CLIP RATE				
RWY	# SAMPLED	NO CLIP	# GOOD	% SUCCESSFUL
POND 1, POND 2	197	1	196	99.49%
			AVERAGE	99.49%

A total of 21,397 BY 2019 summer-run Chinook salmon were PIT-tagged at Pahsimeroi Fish Hatchery November 17th and 18th using the four-station manual PIT-tagging trailer (Table 11). Fish were loaded into the main trough of the trailer by manually netting the fish out of the pond and transporting them in five-gallon buckets. After marking, fish were distributed back to the ponds via four-inch aluminum discharge pipe.

Table 11: BY 2019 Pahsimeroi Summer-Run Chinook PIT-tagged by raceway

Pahsimeroi BY 2019 Summer-Run Chinook		
DATE	RWY	# OF FISH TAGGED
11/17/2020	POND 2	14,797
11/18/2020	POND 2	6,600
TOTAL FISH TAGGED:		21,397

Sawtooth Fish Hatchery



Sawtooth Fish Hatchery Spring-Run Chinook

The Idaho Anadromous Fish-Marking Crew processed BY 2019 spring-run Chinook salmon at Sawtooth Fish Hatchery May 28th through June 2nd using three AutoFish Trailers. A total of 1,538,326 spring-run Chinook salmon were coded-wire tagged and/or adipose fin-clipped (Table 12). Fish were loaded into the trailers using three electric Matsusaka fish-transfer pumps. After marking, fish were distributed to the raceways via four-inch aluminum discharge pipe.

Table 12: Sawtooth Fish Hatchery Spring-Run Chinook and Summer-Run Chinook BY 2019 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Sawtooth Fish Hatchery Spring-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
2	5/29/20	M1	AD/CWT	10-04-74	11,554	1,474	13,028		SALMON R
2	5/30/20	M1	AD ONLY		45,908	14,394	60,302		SALMON R
2	5/30/20	M1	AD/CWT	10-04-74	44,012	2,960	46,972	120,302	SALMON R
3	5/30/20	M1	AD ONLY		3,848	1,542	5,390		SALMON R
3	5/31/20	M1	AD ONLY		37,124	7,459	44,583		SALMON R
3	5/31/20	M1	AD/CWT	10-04-74	43,275	4,248	47,523		SALMON R
3	5/31/20	M1	AD/CWT	10-04-74	11,145	1,456	12,601		SALMON R
3	6/1/20	M1	AD ONLY		6,038	2,411	8,449	118,546	SALMON R
4	5/28/20	M1	CWT ONLY	10-04-89	26,242	1,983	28,225		SALMON R
4	5/28/20	M1	CWT ONLY	10-04-89	42,982	4,684	47,666		SALMON R
4	5/29/20	M1	CWT ONLY	10-04-89	48,165	4,338	52,503		SALMON R
4	5/29/20	M1	CWT ONLY	10-04-89	21,843	2,951	24,794	153,188	SALMON R
5	5/28/20	M3	AD ONLY		37,076	6,327	43,403		SALMON R
5	5/28/20	M3	AD/CWT	10-05-18	17,323	1,030	18,353		SALMON R
5	5/28/20	M3	AD/CWT	10-05-18	10,820	827	11,647		SALMON R
5	5/29/20	M3	AD ONLY		44,395	8,309	52,704		SALMON R
5	5/29/20	M3	AD ONLY		30,856	7,488	38,344	164,451	SALMON R
6	5/29/20	M3	AD ONLY		16,438	2,202	18,640		SALMON R
6	5/30/20	M3	AD ONLY		60,573	9,374	69,947		SALMON R
6	5/30/20	M3	AD ONLY		45,680	6,706	52,386		SALMON R
6	5/31/20	M3	AD ONLY		22,127	4,597	26,724	167,697	SALMON R
7	5/31/20	M3	AD ONLY		17,287	3,601	20,888		SALMON R
7	5/31/20	M3	AD ONLY		23,832	4,123	27,955		SALMON R
7	5/31/20	M3	AD/CWT	10-05-18	21,639	2,029	23,668		SALMON R
7	6/1/20	M3	AD ONLY		31,418	7,655	39,073		SALMON R
7	6/1/20	M3	AD ONLY		20,022	3,962	23,984		SALMON R
7	6/1/20	M3	AD/CWT	10-05-18	6,002	587	6,589	142,157	SALMON R
8	6/1/20	M1	AD ONLY		24,814	6,056	30,870		SALMON R
8	6/1/20	M1	AD ONLY		55,901	13,167	69,068		SALMON R
8	6/1/20	M3	AD ONLY		26,593	3,972	30,565		SALMON R
8	6/2/20	M3	AD ONLY		16,402	3,857	20,259		SALMON R
8	6/2/20	M1	AD ONLY		12,374	4,032	16,406	167,168	SALMON R
9	5/28/20	M4	AD ONLY		19,230	8,224	27,454		SALMON R
9	5/28/20	M4	AD ONLY		9,388	2,145	11,533		SALMON R
9	5/28/20	M4	AD/CWT	10-05-18	19,302	3,963	23,265		SALMON R
9	5/29/20	M4	AD/CWT	10-05-18	6,412	325	6,737		SALMON R
9	5/29/20	M4	AD ONLY		15,560	3,893	19,453		SALMON R
9	5/29/20	M4	AD ONLY		26,088	8,307	34,395		SALMON R
9	5/30/20	M4	AD ONLY		6,537	1,067	7,604	130,441	SALMON R
10	5/30/20	M4	AD ONLY		29,624	6,278	35,902		SALMON R
10	5/30/20	M4	AD ONLY		53,466	8,786	62,252		SALMON R
10	5/31/20	M4	AD ONLY		26,245	3,029	29,274	127,428	SALMON R

Table 12: Continued

Raceway Totals and Mark Totals at Sawtooth Fish Hatchery Spring-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
11	5/31/20	M4	AD ONLY		29,421	7,852	37,273		SALMON R
11	5/31/20	M4	AD ONLY		46,101	7,556	53,657		SALMON R
11	5/31/20	M4	AD/CWT	10-05-18	9,022	879	9,901		SALMON R
11	5/31/20	M4	AD/CWT	10-05-18	18,479	1,621	20,100	120,931	SALMON R
12	6/1/20	M4	AD ONLY		54,986	7,227	62,213		SALMON R
12	6/2/20	M4	AD ONLY		46,396	7,935	54,331		SALMON R
12	6/2/20	M4	AD ONLY		6,998	2,475	9,473	126,017	SALMON R

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish; Adipose fin-clip rates on those fish that also received a coded-wire tag

TAG CODE TOTALS		
TAG CODE	TAG CODE SIZE	# TAGGED
10-04-74	110k	120,124
10-04-89	140k	153,188
10-05-18	110k	120,260

MARK SUMMARY	
TOTAL AD/CWT	240,384
TOTAL CWT ONLY	153,188
TOTAL AD ONLY	1,144,754
TOTAL MARKED	1,538,326

SAWTOOTH BY 2019 SPRING-RUN CHINOOK CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	5814	# MARKED	# SUCCESSFUL
2,3	304	300	98.68%	120,124	118,543
4	305	303	99.34%	153,188	152,183
5,7,9,11	398	396	99.50%	120,260	119,656
MAX. RETENTION			99.50%	393,572	390,383
MIN. RETENTION			98.68%	AVERAGE	99.18%

SAWTOOTH SPRING-RUN CHINOOK ADIPOSE FIN-CLIP RATE				
RWY	# SAMPLED	NO CLIP	# GOOD	% SUCCESSFUL
2,3	304	0	304	100.00%
5,7,9,11	398	2	396	99.50%
			AVERAGE	99.75%

A total of 28,395 BY 2019 spring-run Chinook salmon were PIT-tagged at Sawtooth Fish Hatchery October 6th and 7th using the four-station manual PIT-tagging trailer (Table 13). Fish were loaded into the main trough of the trailer by using an electric Matsusaka fish-transfer pumps. After tagging, fish were distributed back to the ponds via four-inch aluminum discharge pipe.

Table 13: BY 2019 Sawtooth Spring-Run Chinook PIT-tagged by raceway

Sawtooth BY 2019 Spring-Run Chinook		
DATE	RWY	# OF FISH TAGGED
10/6/2020	2	4,296
10/6/2020	3	4,199
10/6/2020	4	1,000
10/6/2020	5	4,699
10/7/2020	7	4,699
10/7/2020	10	4,703
10/7/2020	12	4,799
TOTAL FISH TAGGED:		28,395

Rapid River Fish Hatchery



Rapid River Fish Hatchery Spring-Run Chinook

The Idaho Anadromous Fish-Marking Crew processed BY 2019 spring-run Chinook salmon at Rapid River Fish Hatchery June 8th through June 23rd. A total of 3,290,009 fish were coded-wire tagged and/or adipose fin-clipped (Table 15). Three AutoFish Trailers were used to process fish that received a coded-wire tag and/or adipose fin-clip. Fish were loaded into the main trough of the trailers by two electric Matsusaka fish-transfer pumps. After marking, fish were distributed to the rearing ponds via four-inch aluminum discharge pipe. Due to the long distances between the AutoFish Trailers and rearing ponds, much of the discharge pipe is provided by Rapid River Hatchery and is stored on site at the hatchery.

Table 15: Rapid River Fish Hatchery Spring-Run Chinook BY 2019 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Rapid River Fish Hatchery Spring-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
1A	6/8/20	M3	AD ONLY		34,798	6,352	41,150		RAPID RIVER
1A	6/8/20	M3	AD/CWT	10-05-16	18,729	1,275	20,004		RAPID RIVER
1A	6/9/20	M3	AD ONLY		60,679	7,048	67,727		RAPID RIVER
1A	6/10/20	M3	AD ONLY		51,188	7,465	58,653		RAPID RIVER
1A	6/11/20	M3	AD ONLY		50,289	8,106	58,395		RAPID RIVER
1A	6/15/20	M3	AD ONLY		26,552	5,172	31,724		RAPID RIVER
1A	6/15/20	M3	AD ONLY		37,168	6,338	43,506		RAPID RIVER
1A	6/17/20	M3	AD ONLY		55,442	10,646	66,088		RAPID RIVER
1A	6/17/20	M3	AD ONLY		47,977	7,467	55,444		RAPID RIVER
1A	6/18/20	M3	AD ONLY		49,395	7,401	56,796		RAPID RIVER
1A	6/22/20	M3	AD ONLY		12,070	1,730	13,800		RAPID RIVER
1A	6/22/20	M4	AD ONLY		11,144	3,173	14,317		RAPID RIVER
1A	6/22/20	M3	AD ONLY		22,088	6,259	28,347		RAPID RIVER
1A	6/22/20	M3	AD/CWT	10-05-16	18,771	1,229	20,000		RAPID RIVER
1A	6/23/20	M3	AD ONLY		9,255	1,134	10,389		RAPID RIVER
1A	6/23/20	M3	AD ONLY		11,359	2,256	13,615		RAPID RIVER
1A	6/23/20	M3	AD ONLY		8,512	1,802	10,314	610,269	RAPID RIVER
1B	6/9/20	M3	AD ONLY		64,419	10,280	74,699		RAPID RIVER
1B	6/10/20	M3	AD ONLY		61,901	9,468	71,369		RAPID RIVER
1B	6/11/20	M3	AD ONLY		54,943	10,272	65,215		RAPID RIVER
1B	6/12/20	M3	AD ONLY		23,375	3,584	26,959		RAPID RIVER
1B	6/12/20	M3	AD ONLY		23,256	3,936	27,192		RAPID RIVER
1B	6/12/20	M3	AD/CWT	10-05-16	18,596	1,630	20,226		RAPID RIVER
1B	6/16/20	M3	AD ONLY		28,609	5,223	33,832		RAPID RIVER
1B	6/16/20	M3	AD ONLY		49,850	8,419	58,269		RAPID RIVER
1B	6/16/20	M3	AD/CWT	10-05-16	19,278	734	20,012		RAPID RIVER
1B	6/18/20	M3	AD ONLY		54,738	9,739	64,477		RAPID RIVER
1B	6/19/20	M3	AD ONLY		34,502	7,206	41,708		RAPID RIVER
1B	6/19/20	M3	AD ONLY		29,280	5,674	34,954		RAPID RIVER
1B	6/23/20	M3	AD ONLY		47,922	4,160	52,082		RAPID RIVER
1B	6/23/20	M3	AD ONLY		3,299	575	3,874	594,868	RAPID RIVER
2A	6/9/20	M4	AD ONLY		38,811	7,598	46,409		RAPID RIVER
2A	6/9/20	M4	AD ONLY		54,231	8,783	63,014		RAPID RIVER
2A	6/9/20	M4	AD/CWT	10-05-16	18,781	1,251	20,032		RAPID RIVER
2A	6/10/20	M4	AD ONLY		49,280	10,833	60,113		RAPID RIVER
2A	6/11/20	M4	AD ONLY		27,691	5,706	33,397		RAPID RIVER
2A	6/11/20	M4	AD/CWT	10-05-16	18,670	1,363	20,033		RAPID RIVER
2A	6/12/20	M4	AD ONLY		25,354	7,091	32,445		RAPID RIVER
2A	6/15/20	M4	AD ONLY		24,255	5,652	29,907		RAPID RIVER
2A	6/15/20	M4	AD ONLY		29,005	5,313	34,318		RAPID RIVER
2A	6/17/20	M4	AD ONLY		44,016	11,839	55,855		RAPID RIVER
2A	6/18/20	M4	AD ONLY		47,943	10,885	58,828		RAPID RIVER

Table 15: Continued

Raceway Totals and Mark Totals at Rapid River Fish Hatchery Spring-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
2A	6/19/20	M4	AD ONLY		29,936	7,713	37,649		RAPID RIVER
2A	6/22/20	M4	AD ONLY		40,180	10,156	50,336		RAPID RIVER
2A	6/23/20	M4	AD ONLY		38,897	9,879	48,776	591,112	RAPID RIVER
2B	6/9/20	M2	AD ONLY		57,535	5,734	63,269		RAPID RIVER
2B	6/10/20	M2	AD ONLY		45,673	11,400	57,073		RAPID RIVER
2B	6/11/20	M2	AD ONLY		48,545	9,431	57,976		RAPID RIVER
2B	6/12/20	M2	AD ONLY		41,984	5,351	47,335		RAPID RIVER
2B	6/12/20	M2	AD ONLY		19,840	3,556	23,396		RAPID RIVER
2B	6/16/20	M2	AD ONLY		54,307	5,095	59,402		RAPID RIVER
2B	6/17/20	M2	AD ONLY		55,358	5,041	60,399		RAPID RIVER
2B	6/18/20	M2	AD ONLY		56,708	4,800	61,508		RAPID RIVER
2B	6/19/20	M2	AD ONLY		28,515	2,792	31,307	461,665	RAPID RIVER
2C	6/8/20	M2	AD ONLY		29,891	7,860	37,751		RAPID RIVER
2C	6/9/20	M2	AD ONLY		63,207	13,218	76,425		RAPID RIVER
2C	6/10/20	M2	AD ONLY		54,924	5,104	60,028		RAPID RIVER
2C	6/11/20	M2	AD ONLY		53,354	5,151	58,505		RAPID RIVER
2C	6/15/20	M2	AD ONLY		25,071	2,648	27,719		RAPID RIVER
2C	6/15/20	M2	AD ONLY		31,439	5,107	36,546		RAPID RIVER
2C	6/16/20	M2	AD ONLY		48,004	8,046	56,050		RAPID RIVER
2C	6/17/20	M2	AD ONLY		47,807	7,353	55,160		RAPID RIVER
2C	6/18/20	M2	AD ONLY		49,800	10,180	59,980		RAPID RIVER
2C	6/19/20	M2	AD ONLY		27,857	5,317	33,174		RAPID RIVER
2C	6/22/20	M2	AD ONLY		8,180	995	9,175	510,513	RAPID RIVER
2D	6/8/20	M4	AD ONLY		15,383	6,283	21,666		RAPID RIVER
2D	6/8/20	M4	AD ONLY		42,603	4,320	46,923		RAPID RIVER
2D	6/10/20	M4	AD ONLY		45,140	12,610	57,750		RAPID RIVER
2D	6/11/20	M4	AD ONLY		49,429	8,892	58,321		RAPID RIVER
2D	6/12/20	M4	AD ONLY		23,677	2,947	26,624		RAPID RIVER
2D	6/16/20	M4	AD ONLY		45,645	10,083	55,728		RAPID RIVER
2D	6/16/20	M4	AD ONLY		45,554	10,175	55,729		RAPID RIVER
2D	6/17/20	M4	AD ONLY		47,800	11,111	58,911		RAPID RIVER
2D	6/18/20	M4	AD ONLY		46,305	9,687	55,992		RAPID RIVER
2D	6/19/20	M4	AD ONLY		25,461	6,033	31,494		RAPID RIVER
2D	6/22/20	M2	AD ONLY		1,104	802	1,906		RAPID RIVER
2D	6/22/20	M4	AD ONLY		13,360	3,335	16,695		RAPID RIVER
2D	6/23/20	M4	AD ONLY		7,688	2,009	9,697		RAPID RIVER
2D	6/23/20	M4	AD ONLY		19,438	4,708	24,146	521,582	RAPID RIVER

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish; Adipose fin-clip rates on those fish that also received a coded-wire tag

TAG CODE TOTALS			MARK SUMMARY	
TAG CODE	TAG CODE SIZE	# TAGGED	TOTAL AD/CWT	120,307
10-05-16	110K	120,307	TOTAL CWT ONLY	0
			TOTAL AD ONLY	3,169,702
			TOTAL MARKED	3,290,009

RAPID RIVER BY 2019 SPRING-RUN CHINOOK CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	SUCCESSFUL	# MARKED	# SUCCESSFUL
1A,2A,1B	0	0	100.00%	120,307	120,307
MAX. RETENTION		100.00%	TOTAL	120,307	120,307
MIN. RETENTION		100.00%	AVERAGE RETENTION	100.00%	

*Hole in net pen, assuming 100% tag retention

RAPID RIVER SPRING-RUN CHINOOK ADIPOSE FIN-CLIP RATE				
RWY	# SAMPLED	NO CLIP	# GOOD	% SUCCESSFUL
1A,2A,1B	0	0	0	100.00%
			AVERAGE	100.00%

A total of 51,992 BY 2019 spring-run Chinook salmon were PIT-tagged at Rapid River Fish Hatchery November 30th through December 3rd using the four-station manual PIT-tagging trailer (Table 16). Fish were loaded into the main trough of the trailer by manually netting the fish out of the pond and transporting them in five-gallon buckets. After tagging, fish were distributed back to the pond via four-inch aluminum discharge pipe.

Table 16: BY 2019 Rapid River Spring-Run Chinook PIT-tagged by raceway

Rapid River BY 2019 Spring-Run Chinook		
DATE	RWY	# OF FISH TAGGED
11/30/2020	2A -> 2B	11,299
12/1/2020	2A -> 2B	14,094
12/2/2020	2A -> 2B	14,095
12/3/2020	2A -> 2B	12,504
TOTAL FISH TAGGED:		51,992

McCall Fish Hatchery



McCall Fish Hatchery Summer-Run Chinook

The Idaho Anadromous Fish-Marking Crew processed BY 2019 summer-run Chinook salmon at McCall Fish Hatchery on two separate occasions. A total of 1,176,362 fish were coded-wire tagged and/or adipose fin-clipped (Table 17). The first mark event occurred June 22nd through June 26th. One AutoFish Trailer was used to adipose fin-clip and move fish to outside rearing ponds in order to reduce fish densities in the indoor vats. The second mark event occurred July 13th through July 22nd and one AutoFish Trailer was used to process fish that received an adipose fin-clip and/or coded-wire tag. Fish were loaded into the main trough of the trailer by one electric Matsusaka fish-transfer pump during both marking events. After marking, fish were distributed to ponds via four-inch aluminum discharge pipe.

Table 17: McCall Fish Hatchery Summer-Run Chinook BY 2019 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at McCall Fish Hatchery Summer-Run Chinook									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
POND 1	6/22/20	M1	AD ONLY		50,819	18,197	69,016		SF SALMON
POND 1	6/23/20	M1	AD ONLY		48,013	7,318	55,331		SF SALMON
POND 1	6/23/20	M1	AD ONLY		46,629	13,193	59,822		SF SALMON
POND 1	6/24/20	M1	AD ONLY		50,223	9,751	59,974		SF SALMON
POND 1	6/24/20	M1	AD ONLY		39,158	19,452	58,610		SF SALMON
POND 1	6/25/20	M1	AD ONLY		32,802	13,227	46,029		SF SALMON
POND 1	6/25/20	M1	AD ONLY		26,222	19,611	45,833		SF SALMON
POND 1	6/26/20	M1	AD ONLY		27,086	12,073	39,159		SF SALMON
POND 1	7/13/20	M1	AD ONLY		48,625	7,936	56,561		SF SALMON
POND 1	7/13/20	M1	AD/CWT	10-05-17	8,323	1,951	10,274		SF SALMON
POND 1	7/14/20	M1	AD/CWT	10-05-17	42,003	4,078	46,081	546,690	SF SALMON
POND 2	7/15/20	M1	AD/CWT	10-05-17	33,592	5,452	39,044		SF SALMON
POND 2	7/16/20	M1	AD/CWT	10-05-17	11,948	2,461	14,409		SF SALMON
POND 2	7/16/20	M1	CWT ONLY	10-04-88	12,333	1,060	13,393		SF SALMON
POND 2	7/16/20	M1	CWT ONLY	10-04-88	34,290	3,165	37,455		SF SALMON
POND 2	7/16/20	M1	CWT ONLY	10-04-88	20,113	2,469	22,582		SF SALMON
POND 2	7/17/20	M1	CWT ONLY	10-04-88	57,160	4,938	62,098		SF SALMON
POND 2	7/20/20	M1	AD ONLY		33,447	9,456	42,903		SF SALMON
POND 2	7/20/20	M1	AD ONLY		25,066	6,538	31,604		SF SALMON
POND 2	7/20/20	M1	AD ONLY		23,521	6,979	30,500		SF SALMON
POND 2	7/21/20	M1	AD ONLY		53,320	10,529	63,849		SF SALMON
POND 2	7/21/20	M1	AD ONLY		56,065	17,988	74,053		SF SALMON
POND 2	7/22/20	M1	AD ONLY		48,382	10,214	58,596		SF SALMON
POND 2	7/22/20	M1	AD ONLY		29,676	8,691	38,367	528,853	SF SALMON
VAT 2	7/14/20	M1	CWT ONLY	22-01-91	11,314	2,144	13,458		JOHNSON CREEK
VAT 2	7/15/20	M1	CWT ONLY	22-01-91	41,075	3,867	44,942	58,400	JOHNSON CREEK
VAT 3	7/14/20	M1	CWT ONLY	22-01-91	37,839	4,580	42,419	42,419	JOHNSON CREEK

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish; Adipose fin-clip rates on those fish that also received a coded-wire tag

TAG CODE TOTALS			MARK SUMMARY	
TAG CODE	TAG CODE SIZE	# TAGGED	TOTAL AD/CWT	109,808
10-04-88	125K	135,528	TOTAL CWT ONLY	236,347
10-05-17	110K	109,808	TOTAL AD ONLY	830,207
22-01-91	150K	100,819	TOTAL MARKED	1,176,362

Supplemental Tables: Continued

MCCALL BY 2019 SUMMER-RUN CHINOOK CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	SUCCESSF	# MARKED	# SUCCESSFUL
VAT 6 UPPER	286	286	100.00%	135,528	135,528
VAT 6 LOWER	302	302	100.00%	109,808	109,808
VAT 2, VAT 3	300	299	99.67%	100,819	100,483
MAX. RETENTION		100.00%	TOTAL	346,155	345,819
MIN. RETENTION		99.67%	AVERAGE RETENTION		99.90%

MCCALL SUMMER-RUN CHINOOK ADIPOSE FIN-CLIP RATE				
RWY	# SAMPLED	NO CLIP	# GOOD	% SUCCESSFUL
VAT 6 LOWER	302	0	302	100.00%
			AVERAGE	100.00%

A total of 52,030 BY 2019 summer-run Chinook salmon were PIT-tagged at McCall Fish Hatchery October 12th through October 16th using the four-station manual PIT-tagging trailer (Table 18). Fish were loaded into the main trough of the trailer by an electric Matsusaka fish-transfer pump. After tagging, fish were discharged back to the pond via four-inch aluminum discharge pipe.

Table 18: BY 2019 McCall Summer-Run Chinook PIT-tagged by raceway

McCall BY 2019 Summer-Run Chinook		
DATE	POND #	# OF FISH TAGGED
10/12/2020	1	6,697
10/13/2020	1	15,397
10/14/2020	1	3,900
10/14/2020	2	9,301
10/15/2020	2	14,927
10/16/2020	2	1,808
TOTAL FISH TAGGED:		52,030

Magic Valley Fish Hatchery



Magic Valley Fish Hatchery Summer-Run Steelhead

The Idaho Anadromous Fish-Marking Crew processed 1,601,167 BY 2020 summer-run steelhead at Magic Valley Fish Hatchery on two separate occasions (Table 19). The first mark event occurred June 22nd through June 26th and two AutoFish Trailers were used to process fish that received an adipose fin-clip and/or coded-wire tag. The second mark event occurred September 11th through September 13th and one AutoFish Trailer was used to process fish that received an adipose fin-clip. Fish were loaded into the main trough of the trailers by two electric Matsusaka fish-transfer pumps. After marking, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 19: Magic Valley Fish Hatchery Summer-Run Steelhead BY 2020 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Magic Valley Fish Hatchery Summer-Run Steelhead									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
E1A	9/13/20	M3	AD ONLY		27,691	4,311	32,002	32,002	PAH A
E1B	9/13/20	M3	AD ONLY		13,911	2,313	16,224		PAH A
E1B	9/13/20	M3	AD ONLY		11,776	4,000	15,776	32,000	PAH A
E2A	8/2/20	M4	AD ONLY		8,035	1,278	9,313		PAH A
E2A	8/2/20	M4	AD ONLY		20,574	2,472	23,046	32,359	PAH A
E2B	8/2/20	M4	AD ONLY		7,929	7,675	15,604		PAH A
E2B	8/3/20	M4	AD ONLY		14,432	1,964	16,396	32,000	PAH A
E3A	8/2/20	M4	AD ONLY		29,208	2,800	32,008	32,008	PAH A
E3B	8/3/20	M4	AD ONLY		27,251	4,750	32,001	32,001	PAH A
E4A	8/3/20	M4	AD ONLY		26,154	5,825	31,979	31,979	PAH A
E4B	9/13/20	M3	AD ONLY		24,151	7,850	32,001	32,001	PAH A
E5A	7/30/20	M4	AD ONLY		19,071	7,844	26,915		DWOR B
E5A	7/31/20	M4	AD ONLY		4,385	700	5,085	32,000	DWOR B
E5B	7/31/20	M4	AD ONLY		26,773	5,227	32,000	32,000	DWOR B
E9A	7/30/20	M4	AD ONLY		27,100	4,900	32,000	32,000	DWOR B
E9B	7/30/20	M4	AD ONLY		27,705	4,300	32,005	32,005	DWOR B
E10A	7/29/20	M4	AD ONLY		26,307	5,700	32,007	32,007	DWOR B
E10B	7/29/20	M4	AD ONLY		9,847	5,410	15,257		DWOR B
E10B	7/30/20	M4	AD ONLY		14,151	2,593	16,744	32,001	DWOR B
E11A	7/29/20	M4	AD ONLY		25,523	6,481	32,004	32,004	DWOR B
E11B	8/1/20	M3	CWT ONLY	10-04-85	29,007	2,993	32,000	32,000	U SALMON B
E12A	7/31/20	M3	CWT ONLY	10-04-85	20,617	1,985	22,602		U SALMON B
E12A	7/31/20	M3	CWT ONLY	10-04-85	8,251	1,164	9,415	32,017	U SALMON B
E12B	7/31/20	M3	CWT ONLY	10-04-85	11,497	1,683	13,180		U SALMON B
E12B	8/1/20	M3	CWT ONLY	10-04-85	17,244	1,576	18,820	32,000	U SALMON B
E13A	7/31/20	M3	CWT ONLY	10-04-84	27,982	2,326	30,308	30,308	U SALMON B
E13B	7/31/20	M3	CWT ONLY	10-04-85	28,752	3,262	32,014	32,014	U SALMON B
E14A	7/30/20	M3	CWT ONLY	10-04-84	29,319	2,731	32,050	32,050	U SALMON B
E14B	7/30/20	M3	CWT ONLY	10-04-84	29,850	3,846	33,696	33,696	U SALMON B
E15A	7/29/20	M3	CWT ONLY	10-04-68	21,614	6,339	27,953		DWOR B
E15A	7/30/20	M3	CWT ONLY	10-04-68	3,709	341	4,050	32,003	DWOR B
E15B	7/30/20	M3	CWT ONLY	10-04-84	11,035	1,362	12,397		U SALMON B
E15B	7/30/20	M3	CWT ONLY	10-04-84	17,959	1,661	19,620	32,017	U SALMON B
E16A	7/29/20	M3	CWT ONLY	10-04-68	28,899	3,181	32,080	32,080	DWOR B
E16B	7/29/20	M3	CWT ONLY	10-04-68	28,327	3,673	32,000	32,000	DWOR B
W1A	9/11/20	M3	AD ONLY		27,176	4,834	32,010	32,010	SAW A
W1B	9/11/20	M3	AD ONLY		26,186	5,814	32,000	32,000	SAW A
W2A	9/11/20	M3	AD ONLY		24,901	7,100	32,001	32,001	SAW A
W2B	9/12/20	M3	AD ONLY		9,756	1,945	11,701		SAW A
W2B	9/12/20	M3	AD ONLY		15,349	4,953	20,302	32,003	SAW A
W3A	9/11/20	M3	AD ONLY		12,339	3,314	15,653		SAW A
W3A	9/12/20	M3	AD ONLY		14,060	2,307	16,367	32,020	SAW A

Table 19: Continued

Raceway Totals and Mark Totals at Magic Valley Fish Hatchery Summer-Run Steelhead									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
W3B	9/12/20	M3	AD ONLY		28,054	3,949	32,003	32,003	SAW A
W4A	8/3/20	M4	AD ONLY		11,172	5,675	16,847		U SALMON B
W4A	8/4/20	M4	AD ONLY		12,653	2,500	15,153	32,000	U SALMON B
W4B	9/12/20	M3	AD ONLY		11,198	3,691	14,889		SAW A
W4B	9/12/20	M3	AD ONLY		9,210	4,620	13,830		PAH A
W4B	9/13/20	M3	AD ONLY		2,763	528	3,291	32,010	PAH A
W5A	7/31/20	M4	AD ONLY		29,059	2,950	32,009	32,009	DWOR B
W5B	7/31/20	M4	AD ONLY		23,768	8,252	32,020	32,020	DWOR B
W9A	8/1/20	M4	AD ONLY		25,489	6,889	32,378	32,378	DWOR B
W9B	8/1/20	M4	AD ONLY		15,309	2,808	18,117		DWOR B
W9B	8/1/20	M4	AD ONLY		11,989	1,900	13,889	32,006	DWOR B
W10A	8/1/20	M4	AD ONLY		27,453	4,547	32,000	32,000	DWOR B
W10B	8/4/20	M4	AD ONLY		27,798	4,202	32,000	32,000	U SALMON B
W11A	8/2/20	M4	AD ONLY		24,818	7,189	32,007	32,007	DWOR B
W11B	8/4/20	M4	AD ONLY		13,201	2,800	16,001		U SALMON B
W11B	8/4/20	M3	AD ONLY		14,182	1,819	16,001	32,002	U SALMON B
W12A	8/3/20	M3	AD ONLY		5,333	1,190	6,523		U SALMON B
W12A	8/3/20	M3	AD ONLY		21,574	3,903	25,477	32,000	U SALMON B
W12B	8/4/20	M3	AD ONLY		28,097	3,921	32,018	32,018	U SALMON B
W13A	8/3/20	M3	AD ONLY		26,710	5,302	32,012	32,012	U SALMON B
W13B	8/3/20	M3	AD ONLY		16,906	3,665	20,571		U SALMON B
W13B	8/4/20	M3	AD ONLY		10,264	1,192	11,456	32,027	U SALMON B
W14A	8/2/20	M3	CWT ONLY	10-04-82	28,531	3,246	31,777	31,777	U SALMON B
W14B	8/2/20	M3	CWT ONLY	10-04-82	23,955	1,440	25,395		U SALMON B
W14B	8/3/20	M3	CWT ONLY	10-04-82	6,101	577	6,678	32,073	U SALMON B
W15A	8/1/20	M3	CWT ONLY	10-04-82	11,406	810	12,216		U SALMON B
W15A	8/2/20	M3	CWT ONLY	10-04-82	18,177	1,844	20,021	32,237	U SALMON B
W15B	8/2/20	M3	CWT ONLY	10-04-82	19,906	1,007	20,913		U SALMON B
W15B	8/2/20	M3	CWT ONLY	10-04-82	10,627	462	11,089	32,002	U SALMON B

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish

TAG CODE TOTALS		
TAG CODE	TAG CODE SIZE	# TAGGED
10-04-85	120K	128,031
10-04-84	120K	128,071
10-04-68	90K	96,083
10-04-82	115K	128,089

MARK SUMMARY	
TOTAL AD/CWT	0
TOTAL CWT ONLY	480,274
TOTAL AD ONLY	1,120,893
TOTAL MARKED	1,601,167

Supplemental Tables: Continued

MAGIC VALLEY BY 2020 SUMMER-RUN STEELHEAD CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	SUCCESSFUL	# MARKED	# SUCCESSFUL
E11B,E12A,E12B,E13B	300	286	95.33%	128,031	122,056
E13A,E14A,E14B,E15B	300	290	96.67%	128,071	123,802
E15A,E16A,E16B	300	292	97.33%	96,083	93,521
W14A,W14B,W15A,W15B	300	295	98.33%	128,089	125,954
MAX. RETENTION		98.33%	TOTAL	480,274	465,333
MIN. RETENTION		95.33%	AVERAGE RETENTION		96.89%

* Coded-Wire tagged fish only, No Adipose Fin-Clip Rates

A total of 34,791 BY 2020 summer-run steelhead were PIT-tagged at Magic Valley Fish October 31st through November 2nd using the four-station manual PIT-tagging trailer (Table 20). Fish were loaded into the main trough of the trailer by hatchery personnel utilizing a forklift mounted live fish transfer tank. After tagging, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 20: BY 2020 Magic Valley Summer-Run Steelhead PIT-tagged by raceway

Magic Valley BY 2020 Summer-Run Steelhead		
DATE	RWY	# OF FISH TAGGED
10/31/2020	W15B	1,600
10/31/2020	W14B	1,599
10/31/2020	W12A	2,398
10/31/2020	W10B	2,301
10/31/2020	W9B	2,700
11/1/2020	W1B	1,899
11/1/2020	W3B	1,900
11/1/2020	W5B	2,700
11/1/2020	E1A	1,900
11/1/2020	E2A	1,100
11/1/2020	E3B	1,099
11/1/2020	E16B	1,501
11/1/2020	E15A	1,597
11/1/2020	E14A	2,799
11/2/2020	E15B	2,702
11/2/2020	E11B	2,800
11/2/2020	E11A	1,098
11/2/2020	E10A	1,098
TOTAL FISH TAGGED:		34,791

Hagerman National Fish Hatchery



Photo Credit: Hagerman National Fish Hatchery, USFWS

Hagerman National Fish Hatchery Summer-Run Steelhead

The Idaho Anadromous Fish-Marking Crew processed BY 2020 summer-run steelhead at Hagerman National Fish Hatchery from August 26th through September 1st. A total of 1,570,069 fish were coded-wire tagged or adipose fin-clipped using three AutoFish Trailers (Table 21). Fish were loaded into the three AutoFish Trailers by three electric Matsusaka fish-transfer pumps. After marking, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 21: Hagerman National Fish Hatchery Summer-Run Steelhead BY 2020 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Hagerman Fish Hatchery Summer-Run Steelhead									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
circular tank 1	8/26/20	M3	AD ONLY		18,028	4,532	22,560		SAW A
circular tank 1	8/27/20	M3	AD ONLY		8,676	1,611	10,287	32,847	SAW A
circular tank 2	8/26/20	M3	AD ONLY		17,277	6,581	23,858		SAW A
circular tank 2	8/26/20	M3	AD ONLY		7,536	926	8,462	32,320	SAW A
circular tank 3	8/26/20	M3	AD ONLY		25,748	6,335	32,083	32,083	SAW A
2A	8/27/20	M3	CWT ONLY	10-04-67	27,488	5,401	32,889	32,889	EF SALMON
3A	8/28/20	M3	CWT ONLY	10-04-67	33,033	4,114	37,147	37,147	EF SALMON
4A	8/28/20	M3	AD ONLY		20,287	5,675	25,962	25,962	SAW A
5A	8/28/20	M3	AD ONLY		11,022	2,944	13,966		SAW A
5A	8/29/20	M3	AD ONLY		10,152	2,285	12,437	26,403	SAW A
6A	8/29/20	M3	AD ONLY		22,775	4,685	27,460	27,460	SAW A
7A	8/29/20	M3	AD ONLY		21,866	4,672	26,538	26,538	SAW A
8A	8/26/20	M1	AD ONLY		23,717	6,283	30,000	30,000	SAW A
9A	8/26/20	M1	AD ONLY		24,680	5,320	30,000	30,000	SAW A
10A	8/26/20	M1	AD ONLY		21,168	7,491	28,659		SAW A
10A	8/27/20	M1	AD ONLY		1,055	286	1,341	30,000	SAW A
11A	8/27/20	M1	AD ONLY		22,518	7,482	30,000	30,000	SAW A
12A	8/27/20	M1	AD ONLY		8,873	2,661	11,534		SAW A
12A	8/27/20	M1	AD ONLY		15,970	2,496	18,466	30,000	SAW A
13A	8/27/20	M1	AD ONLY		20,178	8,168	28,346		SAW A
13A	8/28/20	M1	AD ONLY		1,254	400	1,654	30,000	SAW A
14A	8/28/20	M1	AD ONLY		24,002	5,998	30,000	30,000	SAW A
15A	8/28/20	M1	AD ONLY		8,355	1,302	9,657		SAW A
15A	8/28/20	M1	AD ONLY		15,342	5,002	20,344	30,001	SAW A
16A	8/28/20	M1	AD ONLY		23,114	6,886	30,000	30,000	SAW A
17A	8/28/20	M1	AD ONLY		0	2,138	2,138		SAW A
17A	8/29/20	M1	AD ONLY		22,533	5,339	27,872		SAW A
17A	8/29/20	M1	AD ONLY		0	2,664	2,664	32,674	SAW A
18A	8/29/20	M1	AD ONLY		14,446	2,523	16,969		SAW A
18A	8/29/20	M1	AD ONLY		8,632	2,400	11,032		SAW A
18A	8/29/20	M1	AD ONLY		4,149	850	4,999	33,000	SAW A
19A	8/29/20	M1	AD ONLY		25,304	4,700	30,004		SAW A
19A	8/29/20	M1	AD ONLY		792	2,205	2,997	33,001	SAW A
3B	8/29/20	M1	AD ONLY		3,515	1,184	4,699		SAW A
3B	8/30/20	M3	AD ONLY		12,879	2,874	15,753		SAW A
3B	8/30/20	M3	AD ONLY		5,320	1,255	6,575	27,027	SAW A
4B	8/30/20	M1	AD ONLY		10,188	2,957	13,145		SAW A
4B	8/30/20	M3	AD ONLY		11,927	3,794	15,721	28,866	SAW A
5B	8/30/20	M1	AD ONLY		12,922	2,305	15,227		SAW A
5B	8/30/20	M3	AD ONLY		10,943	1,646	12,589	27,816	SAW A
6B	8/30/20	M1	AD ONLY		10,628	2,973	13,601		SAW A
6B	8/30/20	M3	AD ONLY		11,977	2,471	14,448	28,049	SAW A

Table 21: Continued

Raceway Totals and Mark Totals at Hagerman Fish Hatchery Summer-Run Steelhead									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
7B	8/30/20	M1	AD ONLY		10,986	2,817	13,803		SAW A
7B	8/30/20	M3	AD ONLY		11,848	2,501	14,349	28,152	SAW A
8B	8/30/20	M1	AD ONLY		10,375	3,010	13,385		SAW A
8B	8/30/20	M3	AD ONLY		10,650	2,547	13,197	26,582	SAW A
9B	8/31/20	M1	AD ONLY		11,838	3,467	15,305		SAW A
9B	8/31/20	M3	AD ONLY		11,960	3,285	15,245	30,550	SAW A
10B	8/31/20	M1	AD ONLY		12,364	3,465	15,829		SAW A
10B	8/31/20	M3	AD ONLY		11,528	2,716	14,244	30,073	SAW A
11B	8/31/20	M1	AD ONLY		11,611	3,215	14,826		SAW A
11B	8/31/20	M3	AD ONLY		13,912	2,804	16,716	31,542	SAW A
12B	8/31/20	M1	AD ONLY		10,925	3,554	14,479		SAW A
12B	8/31/20	M3	AD ONLY		12,923	3,369	16,292	30,771	SAW A
13B	8/31/20	M1	AD ONLY		13,096	2,937	16,033		SAW A
13B	8/31/20	M3	AD ONLY		11,208	3,153	14,361	30,394	SAW A
14B	8/31/20	M1	AD ONLY		10,966	3,037	14,003		SAW A
14B	8/31/20	M3	AD ONLY		12,958	3,239	16,197	30,200	SAW A
15B	9/1/20	M1	AD ONLY		11,838	3,201	15,039		SAW A
15B	9/1/20	M3	AD ONLY		11,576	3,156	14,732	29,771	SAW A
16B	9/1/20	M1	AD ONLY		11,905	3,088	14,993		SAW A
16B	9/1/20	M3	AD ONLY		11,656	2,914	14,570	29,563	SAW A
17B	9/1/20	M4	AD ONLY		20,505	6,162	26,667	26,667	SAW A
18B	8/31/20	M4	AD ONLY		12,153	3,000	15,153		SAW A
18B	9/1/20	M4	AD ONLY		9,592	3,299	12,891	28,044	SAW A
19B	8/31/20	M4	AD ONLY		20,110	7,375	27,485	27,485	SAW A
4C	8/26/20	M4	AD ONLY		21,139	9,052	30,191	30,191	SAW A
5C	8/26/20	M4	AD ONLY		20,612	9,631	30,243	30,243	SAW A
6C	8/26/20	M4	AD ONLY		4,078	1,259	5,337		SAW A
6C	8/27/20	M4	AD ONLY		19,269	6,036	25,305	30,642	SAW A
7C	8/27/20	M4	AD ONLY		12,912	2,186	15,098		SAW A
7C	8/27/20	M4	AD ONLY		12,822	5,869	18,691	33,789	SAW A
8C	8/27/20	M4	AD ONLY		21,411	6,367	27,778	27,778	SAW A
9C	8/28/20	M4	AD ONLY		19,526	7,978	27,504	27,504	SAW A
10C	8/28/20	M4	AD ONLY		19,545	7,443	26,988	26,988	SAW A
11C	8/28/20	M4	AD ONLY		21,746	7,310	29,056	29,056	SAW A
12C	8/29/20	M4	AD ONLY		24,686	6,057	30,743	30,743	SAW A
13C	8/29/20	M4	AD ONLY		10,764	1,793	12,557		SAW A
13C	8/29/20	M4	AD ONLY		11,717	3,897	15,614	28,171	SAW A
14C	8/29/20	M4	AD ONLY		13,981	3,953	17,934		SAW A
14C	8/30/20	M4	AD ONLY		7,912	2,429	10,341	28,275	SAW A
15C	8/30/20	M4	AD ONLY		22,481	5,598	28,079	28,079	SAW A
16C	8/30/20	M4	AD ONLY		22,447	5,776	28,223	28,223	SAW A
17C	8/30/20	M4	AD ONLY		14,861	4,046	18,907		SAW A

Table 21: Continued

Raceway Totals and Mark Totals at Hagerman Fish Hatchery Summer-Run Steelhead									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
17C	8/31/20	M4	AD ONLY		5,981	2,255	8,236	27,143	SAW A
18C	8/31/20	M4	AD ONLY		24,017	5,350	29,367	29,367	SAW A

Supplemental Tables: Tag Code sizes and amount of fish tagged using that tag code; # of fish by mark type; CWT retention rates by raceway; maximum, minimum and average retention rates of checked fish

TAG CODE TOTALS		
TAG CODE	TAG CODE SIZE	# TAGGED
10-04-67	90K	70,036

MARK SUMMARY	
TOTAL AD/CWT	0
TOTAL CWT ONLY	70,036
TOTAL AD ONLY	1,500,033
TOTAL MARKED	1,570,069

HAGERMAN BY 2020 SUMMER-RUN STEELHEAD CWT RETENTION					
RACEWAY	# CHECKED	# TAGGED	SUCCESSF	# MARKED	# SUCCESSFUL
2A,3A	300	295	98.33%	70,036	68,869
MAX. RETENTION			98.33%	70,036	68,869
MIN. RETENTION			98.33%	AVERAGE	98.33%

* Coded-Wire tagged fish only, No Adipose Fin-Clip Rates

A total of 20,298 BY 2020 summer-run steelhead were PIT-tagged at Hagerman National Fish Hatchery October 29th and October 30th using the four-station manual PIT-tagging trailer (Table 22). Fish were loaded into the main trough of the trailer by an electric Matsusaka fish-transfer pump. After tagging, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 22: BY 2020 Hagerman National Summer-Run Steelhead PIT-tagged by raceway

Hagerman BY 2020 Summer-Run Steelhead		
DATE	RWY	# OF FISH TAGGED
10/29/2020	CIRC3	999
10/29/2020	CIRC2	1,000
10/29/2020	CIRC1	1,001
10/29/2020	2A	4,300
10/29/2020	3A	4,298
10/30/2020	5A	1,500
10/30/2020	17A	1,499
10/30/2020	10B	1,401
10/30/2020	18B	1,500
10/30/2020	6C	1,500
10/30/2020	11C	1,300
TOTAL FISH TAGGED:		20,298

Niagara Springs Fish Hatchery



Niagara Springs Fish Hatchery Summer-Run Steelhead

The Idaho Anadromous Fish-Marking Crew processed BY 2020 summer-run steelhead at Niagara Springs Fish Hatchery August 12th through August 18th. A total of 1,850,674 fish were adipose fin-clipped (Table 23). Three AutoFish Trailers were used to process fish that received an adipose fin-clip. Fish were loaded into the main trough of the trailers by three electric Matsusaka fish-transfer pumps. After marking, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 23: Niagara Springs Fish Hatchery Summer-Run Steelhead BY 2020 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Niagara Springs Fish Hatchery Summer-Run Steelhead									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
1	8/12/20	M1	AD ONLY		18,878	6,750	25,628		OXBOW
1	8/12/20	M1	AD ONLY		47,366	12,387	59,753		OXBOW
1	8/13/20	M1	AD ONLY		7,194	1,760	8,954	94,335	OXBOW
2	8/13/20	M1	AD ONLY		33,585	8,277	41,862		OXBOW
2	8/13/20	M1	AD ONLY		41,822	10,650	52,472	94,334	OXBOW
3	8/13/20	M1	AD ONLY		1,593	5,436	7,029		OXBOW
3	8/14/20	M1	AD ONLY		45,299	9,961	55,260		OXBOW
3	8/14/20	M1	AD ONLY		27,644	4,400	32,044	94,333	OXBOW
4	8/14/20	M1	AD ONLY		14,164	7,013	21,177		OXBOW
4	8/15/20	M1	AD ONLY		47,343	10,112	57,455		OXBOW
4	8/15/20	M1	AD ONLY		13,002	2,700	15,702	94,334	OXBOW
5	8/15/20	M1	AD ONLY		31,395	8,055	39,450		OXBOW
5	8/16/20	M1	AD ONLY		44,283	10,604	54,887	94,337	OXBOW
6	8/16/20	M1	AD ONLY		33,181	10,557	43,738		OXBOW
6	8/17/20	M1	AD ONLY		36,634	11,218	47,852		OXBOW
6	8/18/20	M1	AD ONLY		3,139	949	4,088	95,678	OXBOW
7	8/12/20	M3	AD ONLY		20,108	5,888	25,996		OXBOW
7	8/12/20	M3	AD ONLY		44,444	15,614	60,058	86,054	OXBOW
8	8/13/20	M3	AD ONLY		34,478	8,303	42,781		OXBOW
8	8/13/20	M3	AD ONLY		34,495	8,724	43,219	86,000	OXBOW
9	8/13/20	M3	AD ONLY		3,740	5,446	9,186		OXBOW
9	8/14/20	M3	AD ONLY		39,904	6,784	46,688		OXBOW
9	8/14/20	M3	AD ONLY		23,025	7,118	30,143	86,017	OXBOW
10	8/14/20	M3	AD ONLY		14,881	3,914	18,795		PAH
10	8/15/20	M3	AD ONLY		34,409	6,487	40,896		PAH
10	8/15/20	M3	AD ONLY		34,360	9,950	44,310	104,001	PAH
11	8/15/20	M3	AD ONLY		9,210	2,762	11,972		PAH
11	8/16/20	M3	AD ONLY		42,471	5,937	48,408		PAH
11	8/16/20	M3	AD ONLY		26,209	7,325	33,534		PAH
11	8/18/20	M4	AD ONLY		5,224	1,082	6,306		PAH
11	8/18/20	M1	AD ONLY		3,322	555	3,877	104,097	PAH
12	8/16/20	M3	AD ONLY		9,880	2,179	12,059		PAH
12	8/17/20	M3	AD ONLY		41,462	5,208	46,670		PAH
12	8/17/20	M3	AD ONLY		34,387	8,900	43,287	102,016	PAH
13	8/17/20	M1	AD ONLY		39,974	8,853	48,827		PAH
13	8/18/20	M3	AD ONLY		12,813	2,892	15,705		PAH
13	8/18/20	M4	AD ONLY		10,300	2,489	12,789		PAH
13	8/18/20	M1	AD ONLY		17,023	4,156	21,179		PAH
13	8/18/20	M1	AD ONLY		3,204	801	4,005	102,505	PAH
14	8/17/20	M4	AD ONLY		40,030	9,200	49,230		PAH
14	8/17/20	M4	AD ONLY		41,272	9,391	50,663		PAH
14	8/18/20	M4	AD ONLY		2,303	329	2,632	102,525	PAH

Table 23: Continued

Raceway Totals and Mark Totals at Niagara Springs Fish Hatchery Summer-Run Steelhead									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
15	8/16/20	M4	AD ONLY		40,790	7,103	47,893		PAH
15	8/16/20	M4	AD ONLY		44,283	6,771	51,054		PAH
15	8/17/20	M4	AD ONLY		2,553	500	3,053	102,000	PAH
16	8/15/20	M4	AD ONLY		35,240	7,211	42,451		PAH
16	8/15/20	M4	AD ONLY		41,299	10,529	51,828		PAH
16	8/16/20	M4	AD ONLY		6,348	1,438	7,786	102,065	PAH
17	8/14/20	M4	AD ONLY		31,080	6,138	37,218		PAH
17	8/14/20	M4	AD ONLY		42,842	7,832	50,674		PAH
17	8/15/20	M4	AD ONLY		11,536	2,586	14,122	102,014	PAH
18	8/13/20	M4	AD ONLY		34,422	7,089	41,511		PAH
18	8/13/20	M4	AD ONLY		40,965	8,394	49,359		PAH
18	8/14/20	M4	AD ONLY		9,049	2,101	11,150	102,020	PAH
19	8/12/20	M4	AD ONLY		34,854	9,122	43,976		PAH
19	8/12/20	M4	AD ONLY		46,479	10,028	56,507		PAH
19	8/13/20	M4	AD ONLY		1,274	252	1,526	102,009	PAH

Supplemental Table: # of fish by mark type.

MARK SUMMARY	
TOTAL AD/CWT	0
TOTAL CWT ONLY	0
TOTAL AD ONLY	1,850,674
TOTAL MARKED	1,850,674

* No Adipose Fin-Clip Rates were checked

A total of 22,694 BY 2020 summer-run steelhead were PIT-tagged at Niagara Springs Fish Hatchery November 10th and November 11th using the four-station manual PIT-tagging trailer (Table 24). Fish were loaded into the main trough of the trailer by an electric Matsusaka fish-transfer pump. After tagging, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 24: BY 2020 Niagara Springs Summer-Run Steelhead PIT-tagged by raceway

Niagara Springs BY 2020 Summer-Run Steelhead		
DATE	RWY	# OF FISH TAGGED
11/10/2020	1	2,996
11/10/2020	3	2,601
11/10/2020	5	2,999
11/10/2020	8	2,799
11/10/2020	10	2,300
11/10/2020	18	3,000
11/11/2020	17	3,001
11/11/2020	12	2,998
TOTAL FISH TAGGED:		22,694

Springfield Fish Hatchery



Springfield Fish Hatchery Summer-Run Sockeye

The Idaho Anadromous Fish-Marking Crew processed BY 2019 summer-run Sockeye at Springfield Fish Hatchery July 9th through July 14th. A total of 1,190,319 fish were adipose fin-clipped (Table 25). Two AutoFish Trailers were used to process fish that received an adipose fin-clip. Fish were loaded into the main trough of the trailers by two electric Matsusaka fish-transfer pumps. After marking, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 25: Springfield Fish Hatchery Summer-Run Sockeye BY 2019 Raceway Totals and Mark Totals by date, trailer, mark type, tag code, Mass Automated Tagging System (MATS) and manual numbers

Raceway Totals and Mark Totals at Springfield Fish Hatchery Summer-Run Sockeye									
RWY	DATE	TRAILER	MARK TYPE	TAG CODE	MATS	MANUAL	MARK TOTAL	RWY TOTAL	STOCK
1	7/9/20	M3	AD ONLY		20,202	3,860	24,062		REDFISH LK
1	7/9/20	M3	AD ONLY		21,475	6,993	28,468	52,530	REDFISH LK
2	7/9/20	M3	AD ONLY		1,555	559	2,114		REDFISH LK
2	7/10/20	M3	AD ONLY		38,369	5,963	44,332		REDFISH LK
2	7/10/20	M3	AD ONLY		8,251	1,519	9,770	56,216	REDFISH LK
3	7/10/20	M3	AD ONLY		44,515	7,528	52,043		REDFISH LK
3	7/11/20	M3	AD ONLY		4,126	633	4,759	56,802	REDFISH LK
4	7/11/20	M3	AD ONLY		46,784	10,076	56,860	56,860	REDFISH LK
5	7/11/20	M3	AD ONLY		42,437	8,219	50,656		REDFISH LK
5	7/12/20	M3	AD ONLY		4,536	1,027	5,563	56,219	REDFISH LK
6	7/12/20	M3	AD ONLY		37,163	8,135	45,298		REDFISH LK
6	7/12/20	M3	AD ONLY		8,665	2,682	11,347	56,645	REDFISH LK
7	7/12/20	M3	AD ONLY		29,463	6,644	36,107		REDFISH LK
7	7/13/20	M3	AD ONLY		11,257	2,930	14,187	50,294	REDFISH LK
8	7/13/20	M3	AD ONLY		32,623	5,420	38,043		REDFISH LK
8	7/13/20	M3	AD ONLY		8,958	2,181	11,139	49,182	REDFISH LK
9	7/13/20	M3	AD ONLY		42,871	8,375	51,246	51,246	REDFISH LK
10	7/14/20	M3	AD ONLY		46,209	6,411	52,620	52,620	REDFISH LK
11	7/14/20	M3	AD ONLY		52,628	7,488	60,116	60,116	REDFISH LK
12	7/14/20	M4	AD ONLY		48,106	8,714	56,820	56,820	REDFISH LK
13	7/14/20	M4	AD ONLY		42,737	9,506	52,243		REDFISH LK
13	7/14/20	M4	AD ONLY		1,500	786	2,286	54,529	REDFISH LK
14	7/13/20	M4	AD ONLY		46,123	9,396	55,519	55,519	REDFISH LK
15	7/13/20	M4	AD ONLY		40,663	8,902	49,565		REDFISH LK
15	7/13/20	M4	AD ONLY		3,136	1,062	4,198	53,763	REDFISH LK
16	7/12/20	M4	AD ONLY		39,884	9,563	49,447	49,447	REDFISH LK
17	7/12/20	M4	AD ONLY		39,881	9,933	49,814		REDFISH LK
17	7/12/20	M4	AD ONLY		4,679	1,356	6,035	55,849	REDFISH LK
18	7/11/20	M4	AD ONLY		48,145	11,131	59,276	59,276	REDFISH LK
19	7/10/20	M4	AD ONLY		5,071	1,388	6,459		REDFISH LK
19	7/11/20	M4	AD ONLY		34,645	8,772	43,417	49,876	REDFISH LK
20	7/10/20	M4	AD ONLY		46,849	8,038	54,887	54,887	REDFISH LK
21	7/9/20	M4	AD ONLY		8,875	4,000	12,875		REDFISH LK
21	7/10/20	M4	AD ONLY		30,135	4,996	35,131	48,006	REDFISH LK
22	7/9/20	M4	AD ONLY		20,025	6,200	26,225		REDFISH LK
22	7/9/20	M4	AD ONLY		22,115	5,277	27,392	53,617	REDFISH LK

Supplemental Table: # of fish by mark type

MARK SUMMARY	
TOTAL AD/CWT	0
TOTAL CWT ONLY	0
TOTAL AD ONLY	1,190,319
TOTAL MARKED	1,190,319

* No Adipose Fin-Clip Rates were checked

A total of 49,982 BY 2019 summer-run Sockeye salmon were PIT-tagged at Springfield Fish Hatchery October 20th through October 22nd using the four-station manual PIT-tagging trailer (Table 26). Fish were loaded into the main trough of the trailer by an electric Matsusaka fish-transfer pump. After tagging, fish were distributed to raceways via four-inch aluminum discharge pipe.

Table 26: BY 2019 Summer-Run Sockeye Salmon PIT-tagged by raceway

Springfield BY 2019 Summer-Run Sockeye		
DATE	RWY	# OF FISH TAGGED
10/20/2020	1	9,993
10/20/2020	8	9,969
10/21/2020	13	10,000
10/21/2020	15	10,018
10/22/2020	22	10,002
TOTAL FISH TAGGED:		49,982

Discussion

Net pens used for tag retention failed more this year than in years past, resulting in several tag groups not having tag retention data. To alleviate this issue more maintenance will be done on our net pens in the offseason and a more thorough inspection of net pens will occur once net pens have arrived at the hatchery.

Tag retentions were improved this year in comparison to last year. Having two experienced full-time operators on staff, one on each shift likely added in attaining these results. Having an experienced crew member setup the tagging operations and help with tag placement helped significantly in attaining these results.

In these unprecedented times of COVID-19, the crew took the appropriate steps and precautions for all of the crew members this season. Preventing any illnesses and outbreaks amongst the crew and any of the hatchery staff lead to a successful season.

As with most of the previous years, hiring and maintaining a full crew proved to be challenging. Many rounds of interviews were conducted in an attempt to keep the program fully staffed, which at one point we were, but we were short-handed for the majority of the season.

USFWS Lower Snake River Compensation Plan

O&M IDFG Fish Marking Program

Award Number: F16AC00028

Performance Period: October 1, 2019 to September 30, 2020

Final Performance Report

Reviewed by:



Gary Byrne, IDFG Assistant Chief of Fisheries



Date